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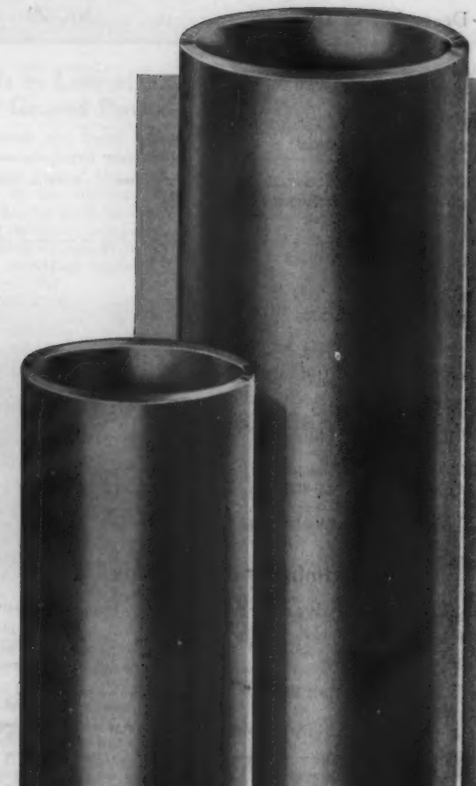

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Oil Industry Rapidly Getting to Stable Condition Despite Rumors of Crude Price Recessions

By ANDREW M. ROWLEY

BASIC conditions in the petroleum industry are improving rapidly despite rather definite indications some of the companies which increased crude oil prices 12 cents a barrel on October 15 are contemplating returning to the former schedule. The situation in Texas, the crucial point in the picture, is being ironed out and when the Railroad Commission of that State starts to enforce strictly its rules promulgated under the recently enacted market demand law, there should be a substantial reduction in production.

The price situation will take care of itself when crude oil production is brought within requirements and state authorities have more time to make an active campaign against operators who are producing crude oil in excess of allowables. Two factors are most important in the matter of price. First is that of illegally produced crude which is moving to markets under regularly posted prices and which exerts a wider influence on the price schedules when it is manufactured into gasoline which is sold at cut prices in competition with gasoline made from crude purchased at posted prices. The second factor is the quantity of crude oil being sold on contracts under the regularly posted crude oil price schedules. Gasoline from this crude also competes with gasoline being sold by refiners who are paying higher prices for the raw material.

State authorities can stop the production of crude oil in excess of allowables. The question is getting wide attention in Oklahoma at this time and the authorities in Texas undoubtedly will take proper steps to check the practice when matters connected with the new method of prorating East Texas are settled. The second factor is closely related to production in excess of allowables and elimination of this excess production will help solve the latter problem. An increase in the posted price of crude oil would go a long way toward eliminating these contracts from the picture.

There is no good reason why the petroleum industry cannot operate on a higher price basis. Low prices never helped any business. The industry could operate on a price level of $1.50 crude just as well as it is doing on $1 crude. The difference would be the companies would have more money in their treasuries. And there certainly is not any excuse for refiners to sell gasoline at 3½ cents a gallon. In the matter of price cutters, often given as an excuse for lowering prices, just like the poor and taxes, we will always have them with us whether crude oil prices be $1 or $1.50 a barrel, and whether gasoline be sold by the refiner at a profit or a loss.

Crude Oil Production in the United States

Estimated daily average production for the week ending December 3, and a comparison with previous week and one year ago, follows:

	Dec. 3	Nov. 26	Dec. 5, 1931
Oklahoma—			
Oklahoma City	63,480	58,740	196,785
Seminole-St. Louis	104,515	106,685	141,620
Remainder of State	200,120	201,415	216,215
Total Oklahoma	368,115	366,840	554,620
East Texas—			
Lathrop	139,605	138,235	133,448
Kilgore	108,396	107,316	133,465
Joiner	115,715	114,444	135,320
Total East Texas	363,716	359,995	402,233
West Texas	164,422	165,127	200,174
North Central Texas	72,115	72,621	82,096
Texas Panhandle	49,037	45,436	53,537
East Central Texas	49,053	49,315	56,785
Gulf Coast Texas	147,118	119,450	120,725
Southwest Texas	57,346	57,684	62,643
Total State of Texas	902,807	869,628	978,193
Kansas	95,580	102,320	104,830
North Louisiana	28,400	28,895	28,690
Gulf Coast Louisiana	33,806	34,793	34,212
Arkansas	33,500	33,885	37,450
Eastern Fields	117,000	120,000	127,000
Rocky Mountain area	74,567	74,911	90,206
California—			
Santa Fe Springs	57,500	57,250	61,500
Long Beach	68,750	69,000	74,250
Playa Del Rey	13,250	13,500	22,750
Elwood	12,500	13,000	22,750
Kettleman Hills	62,000	63,000	58,500
Remainder of State	255,000	255,250	256,250
Total California	469,000	471,000	496,000
Total United States	2,122,775	2,102,272	2,451,201

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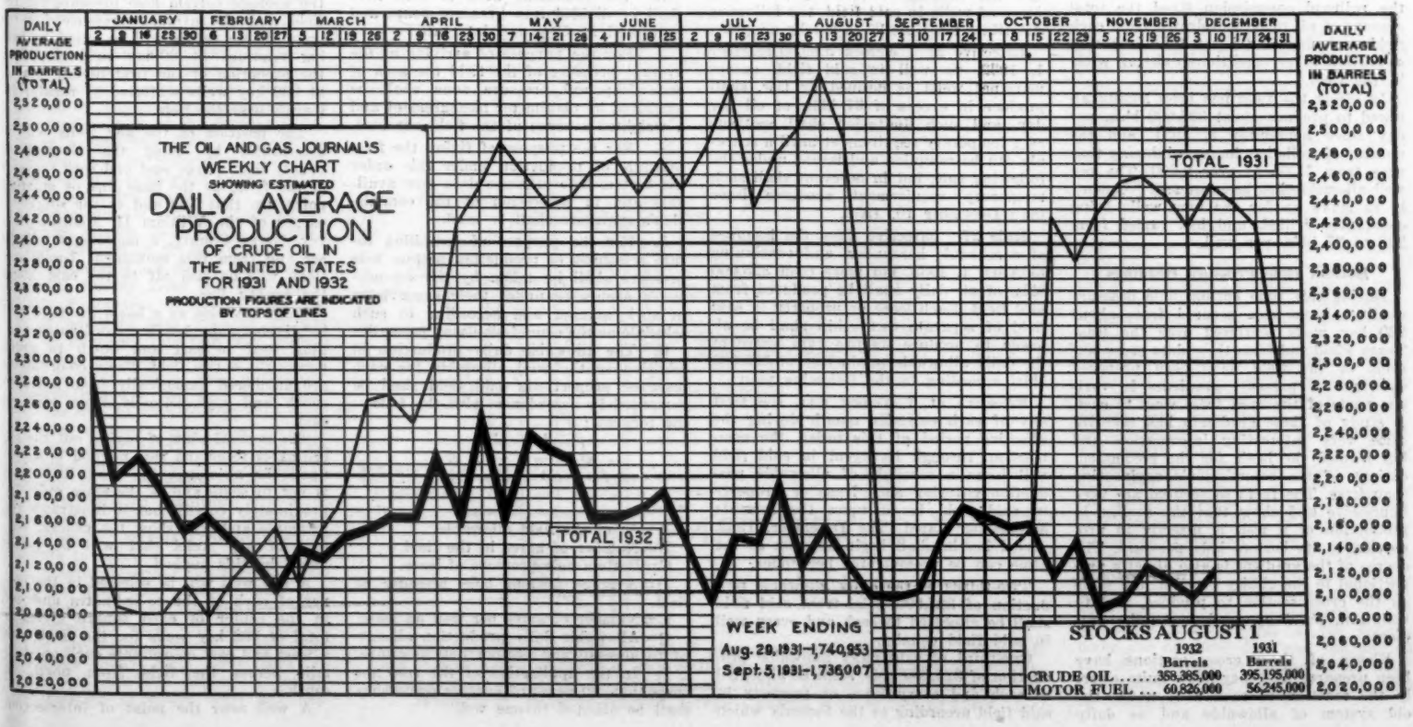
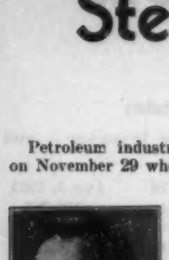


New Method of Prorating East Texas Forward Step; May Extend Plan to Cover All Fields

By L. G. E. BIGNELL
Petroleum Engineering Editor

Petroleum industry history was made on November 29 when the Railroad Commission of Texas issued a new order fixing the allowable production for the East Texas Field upon an allowable amount of oil per well and basing the balance of the oil produced upon bottom hole pressure and acreage surrounding the well. This is the first time that bottom hole pressure has been given consideration in fixing the amount of oil that could be produced by wells within any field. It is a step forward and has been advocated and anticipated for some time by engineers and others who have been studying conditions in the East Texas Field. Now that it is to become effective December 10 the results will be watched by everyone.



The East Texas Field has been remarkable for many things other than just its great size. It has been subjected to nearly every type of production method that could be applied to it from natural flowing to gas lift, has been produced wide open for a time and then completely shut in and when again opened up was placed upon a fixed allowable per well per day basis. This is now to be superseded by the new rule which will permit each well to make 24 bbls. per day upon the well allowable basis, plus its proportional amount of oil to be recovered determined by the solving of a formula that takes into consideration field and lease bottom hole pressures and acreage surrounding the well.

Production had been based upon an allowable per well per day basis and while the railroad commission fixed the total amount of oil to be withdrawn from each field each day it did not take into consideration other conditions existing within the field.

In effect the field has been legally allowed to produce about 325,000 bbls. per day since September 5, 1931, and the number of wells has increased during that time from 1,765 to over 9,000. The per well allowable has been reduced frequently to make up for the new wells being constantly drilled, and has varied from 225 to 37 bbls. per well.

Bottom Hole Pressure Readings

During this time bottom hole pressure readings have been secured from about 220 key wells scattered over the East Texas Field and from these data cross sections of the field have been prepared showing the pressure gradients in various parts of the area from west to east. A study of these gradients has revealed some very interesting information and has formed the basis for the recommendations of the commission's engineering committee. The facts so secured are very impressive and show that the decline in production of a well is directly in proportion to its bottom hole pressure. The degree of the gradient is also directly proportional to the ability of all of the wells on the cross section to produce, and to maintain, build up or decrease the gradient.

Eleven of these cross sections have been prepared and they show quite clearly the reaction of each area under the old system of allowable and as daily rates of flow under the old system have varied from 375,000 to 325,000 bbls. they show the effects of these changes upon reservoir conditions and permit very definite conclusions as to future procedure.

Great care was taken by the engineers who had this study under their supervision and it is most interesting to consider the great number of things that have been revealed through the medium of interpreting bottom hole pressure readings taken at approximately regular intervals. It has long been predicted that the East Texas Field would have to be restricted as to its rate of daily production and regardless of the total amount of oil stored in this great reservoir its place in the industry was really determined by the amount of oil that could be safely withdrawn from it each day. It now is very apparent that the 325,000-bbl. allowable was quite fair and has permitted water movement within the reservoir to be controlled within reasonable limits.

At the hearing the commission had submitted for consideration many theories and plans for establishing the new allowable. They were based upon gas-oil ratio, sand thickness or acre feet of production, penetration of the well into the sand and sand porosity and permeability. Other variations of these ideas were presented but in the last analysis they all failed to stand up under scrutiny when compared directly with the bottom hole pressure plan.

New Plan Explained

The new order has been published and is now generally known but it is found that there are many details contained in it that are not entirely clear. These will be discussed fully and a nomographic chart and plat of the field also accompany this article which will assist in this explanation. The full order is published elsewhere in this issue of The Oil and Gas Journal.

The field allowable has been established at 325,000 bbls. per day for the period from December 1 to February 1, 1933. Two-thirds of this production, or 216,667 bbls., is to be allotted upon the basis of a per well allowable, each well in the field to receive an equal amount. This amount will be at first 24 bbls. per day based upon dividing 216,667 bbls. by 9,000, or the number of wells now in the field.

The remaining one-third is to be distributed on a pressure and acreage basis according to the following formula:

$$\frac{\text{⅓ of the field allowable}}{\text{Total No. of acres in field}} \times \frac{\text{Average pressure of tract}}{\text{Average pressure of field}} \times \text{Total No. of acres in tract.}$$

This can be stated:

$$\frac{A}{B} \times \frac{C}{D} \times E = Q \quad \text{or} \quad \frac{108{,}333}{114{,}000} \times \frac{X}{1{,}390} \times \text{"Y"} = Q$$

In which equation "X" is the average pressure of the tract or lease; 1,390 pounds the present average pressure of the field; 108,333 equals one-third of 325,000 bbls. the field allowable; 114,000 acres the area of the field, "Y" the number of acres in the lease, and Q equals the allowable per well based on bottom hole pressure and acreage.

This method of computing well allowables will place a maximum for one well on 1 acre with 800 pounds of pressure at 25 bbls. per day, and for one well on 20 acres, with 1,500 pounds pressure, 45½ bbls. per day. The rule states that "not more than 20 acres of surface ownership shall be allotted to one well."

When the various values for the above equation are known it is not a difficult matter to figure out the amount of oil a well may produce. But there are variables in this formula and the commission has provided definite means of changing them from time to time.

Bottom Hole Pressure Determinations

It is necessary at all times to know the average bottom hole pressure for the field and the average pressure for the tract. These values will be found by taking readings at 60-day intervals, with the exception of the first 30-day period, at 332 key wells scattered at regular intervals over the field.

The position of the key wells will be determined by using the Gregg-Rusk county line, a true east and west traverse of the field, as the base line or starting point. On that line and at the southeast corner of the William H. Johnson Survey, Gregg County, a monument will be set and from this monument 1-mile sections will be laid off to the east along the county line.

With this line as a basis the field will be divided into 1-mile co-ordinates running west to east and north to south across the entire field. These co-ordinates are numbered numerically from north to south and alphabetically from west to east.

The general plan of laying out the co-ordinates following this method is shown upon the accompanying map. This map is not to scale and is therefore only approximately correct but it illustrates the principle and will show the general pattern of key wells that will be established by this method.

A key well will be selected in the corner of each of the co-ordinates and one in the center of each square giving a total of 332 key wells for the field with a west and east co-ordinate each one-half mile across the field from north to south.

A well near the point of intersection

Railroad Commission Issues Orders for Allowable Output in East Texas

AUSTIN, Tex., Dec. 5.—The Railroad Commission of Texas has issued the following special order adopting rules fixing allowable production from the East Texas Field:

In addition to the rules heretofore adopted which apply to and govern the spacing, drilling, completing and operating of wells in said field, the following substitute for Rule 27 is hereby adopted:

Effective at 7 o'clock a.m., December 1, 1932, no well in said field, except marginal wells as defined by law, shall produce in excess of 37 bbls. of oil per day, and such limitation shall continue as a temporary requirement until a schedule can be compiled and issued under the following rule, but in no event shall such temporary requirement continue later than December 10, 1932.

Rule 27. Effective upon the issuance of a schedule hereunder, and continuing to April 1, 1933, not more than 325,000 bbls. of oil daily shall be produced from said field. Each lease or property in said field of separate ownership shall be allowed to produce its pro rata share of the daily allowable production of 325,000 bbls. according to the following plan:

Effective at 7 o'clock a.m. the first day of each calendar month during the effective period of this order, the commission, through its agent in said field will issue a schedule of allowable production covering such lease or property in said field based upon the formula hereinafter stated. The December, 1932, period herein shall begin as soon as the same can be promulgated hereunder.

Two-thirds of the daily allowable production of 325,000 bbls. from said field shall be allocated to each and every well in said field equally.

One-third of said daily allowable production of 325,000 bbls. shall be allocated to each and every lease or property in said field according to the formula which takes into account acreage and pressure factors as follows:

1. Agents of the commission will select and designate key wells located in such way as to secure representative bottom hole pressure data uniformly throughout said field.

2. The producing area of said field shall be divided into pressure zones and contoured at 50-pound intervals.

3. For the purpose of arriving at the average pressure of the field the area of each 50-pound pressure zone shall be measured by planimeter measurement and a weighted average of the field obtained.

4. For the purpose of fixing the first schedule of production under this order the bottom hole pressure data now available and in possession of the commission's engineers shall be used.

5. For the purpose of compiling future schedules of production bottom hole pressure shall be taken by the commission's agents or under their supervision in such manner and according to such schedule as the commission may prescribe.

6. The allowable daily production in addition to the well allowable for each lease or property in said field shall be computed in accordance with the following formula:

$$Q = \frac{A}{B} \times \frac{C}{D} \times E$$

where

A = ⅓ of the field allowable.
B = Number of acres in the field.
C = Bottom hole pressure of lease.
D = Average bottom hole pressure of field.
E = Number of acres per well on lease.
Q = Allowable daily production allocated to acreage and bottom hole pressure.

7. In the application of the rule not more than 20 acres of surface ownership shall be allotted to one well.

of the west-east and north-south lines will be selected and as there are now 219 key wells in the field that have been used for recording bottom hole pressures for nine months past as many of these wells as possible will be used for the new set of key wells. If one of these original key wells will not serve as a future point for obtaining bottom hole pressure data another well located near the intersecting lines will be chosen and a second well in the center of the square formed by these west-east and north-south lines will be used.

How Tests Are Conducted

All key wells will be tubed with 2½-inch tubing and well head connections suitable for adding a lubricator will be installed if it is not already in place. By this means the subsurface pressure gauge or instrument can be run into the hole without opening up the well.

The readings are to be secured by the use of approved type of bottom hole pressure instruments. All companies having bottom hole pressure instruments and instrument crews representing nonintegrated companies, will determine static bottom hole pressure readings on all key wells at 60-day intervals. This work will be supervised by an advisory committee.

The bottom hole pressure readings are to be taken after the well has been shut in 24 hours and all readings shall be corrected to —3,300 sea level datum. Wherever possible the reading shall be taken at exactly —3,300 feet below sea level datum in the well.

All bottom hole pressure instruments must be calibrated in the same manner and on the same tester before, and immediately after each pressure period and all compensating errors reported to the advisory committee immediately.

It has been recommended that an advisory committee, composed of seven members, shall be appointed by the railroad commission to serve for a term of one year. This committee of seven will consist of four engineers representing major oil companies, two engineers representing individual operators and nonintegrated companies, and one member of the railroad commission to act as head of the advisory committee.

It shall be the duty of this advisory committee to obtain and compile all pressure readings, plot all cross sections and make recommendations to the railroad commission as to the production for each zone.

Pressure Contours

It has been provided in the order that the field shall be divided into pressure zones and contoured at 50-pound intervals.

For the purpose of arriving at the average pressure of the field the area of each 50-pound pressure zone shall be measured by planimeter measurement and a weighted average of the field obtained.

When a zone line divides a lease the production will be reported in the same manner as unit production is reported in unitized pools, for example:

X Petroleum Co.'s No. 1 Florence, R. W. Smith Survey. Zone No. 7, allowable 45 bbls. Production 45 bbls.

X Petroleum Co.'s No. 3 Florence, R. W. Smith Survey. Zone No. 8, allowable 40 bbls. Production 40 bbls.

It is admitted that drawing contour lines at 50-pound intervals will present inequalities in some areas in the field and it is quite possible that during one proration period a well may be changed from one zone to an adjoining one. However, the engineers who have reviewed this plan carefully feel that with the complete data available as established by west-east and north-south pressure contours, underground conditions will be so clearly established that there will be little chance for serious error in drawing contours to occur.

In making reservoir pressure contours from the data now available and plotting these pressures on west-east lines and correlating same with cross sections of the producing horizons in the same key wells many facts have been revealed that establish beyond a reasonable question of doubt what has happened in the producing sand under conditions of production that have existed.

If too much oil has been withdrawn the bottom hole pressure readings reflect this condition very clearly. When this drop in bottom hole pressure is compared with sand conditions, well penetration and position of water level contour it is not difficult to interpret the results.

Allotting daily rate of production to the well upon both the bottom hole pressure and acreage basis will soon establish very equitable withdrawals from all parts of the field and it will be found that under this method the owner of surface rights is getting only his share of the oil under his ground and if he is asking for more he is unreasonable.

Nomographic Chart

It is anticipated that this new system of securing well allowables will be applied to other fields in Texas as the results are secured in East Texas and to aid in this expansion of the use of the formula, The Oil and Gas Journal has had prepared a nomographic chart which is published on page 33 of this issue. This term or the type of chart need not frighten the uninitiated for with a little study and practice this method of computing a well's allowable is very easy and simple.

How to Use Nomographic Chart

On the nomographic chart on page 33 there are six vertical scales marked from left to right: "A," "B," "Q," "C," "E" and "D" representing the values in the formula printed at the bottom of the chart.

The chart has been plotted so as to be available for any field with a maximum total allowable of 450,000 bbls. per day; 114,000 acres size; with average field and well bottom hole pressures of not over 3,000 pounds and with 20 acres or less allowed to each well.

Advocate New Principle

The Oil and Gas Journal has advocated the use of bottom hole pressure data in establishing well allowables and in articles appearing in this paper on July 28 and August 4, 1932, pointed out the advantages that would accrue to the producers by the use of such a method.

While many will at first be inclined to feel that such a method of alloting oil from any field is not the best that can be devised it is felt that as they come to know the advantages that will be gained they will be won over to favoring it. This statement is based upon one fundamental fact, that only such oil as was originally under the lease belongs to the owner of surface rights. If property owners feel that they are entitled to all the oil that they can produce from their well or wells regardless of its source they will be disappointed. The day of unlimited competition in drilling and production of oil is past.

In the study of bottom hole pressure data accumulated from the East Texas Field wells during the past nine months the facts covering underground conditions are clearly set forth. By making cross sections of the producing horizon from west to east and from north to south it has been shown that restricted rate of withdrawal has served to control water movement and the oil is being forced to the well ahead of the water and the sand flushed of nearly all of its oil.

Lease Valuation

In time it will be possible to estimate quite accurately the additional flowing life of any lease, and in this way it will also be possible to place upon that lease a very accurate value based upon total recoverable oil. The greatest variable to be considered under this new method will be the fluctuation in market price for crude. Even this variable should be subject to less variation than formerly because when all reservoir and field conditions are known the available amount of oil to be extracted from any field per day can be established far in advance of requirements. If the oil is withdrawn only as it is needed there will be less tendency to overproduce and cause weak markets.

In studying the pressure curves secured by plotting bottom hole pressures taken at various intervals during the past nine months in East Texas it is very evident that the water movement through the sand is the controlling factor in maintaining energy for driving the oil to the well. It also serves to keep the bottom hole pressure high enough to prevent gas from escaping from the oil and lowering its viscosity and making it more difficult to produce.

With the rate of water movement known and also being able to plot future bottom hole pressures it will permit operators in every part of the field to anticipate closely their pumping equipment requirements and the time when the installations will be necessary. This will mean a saving in many instances and will also permit the operator to select his equipment to best suit his needs.

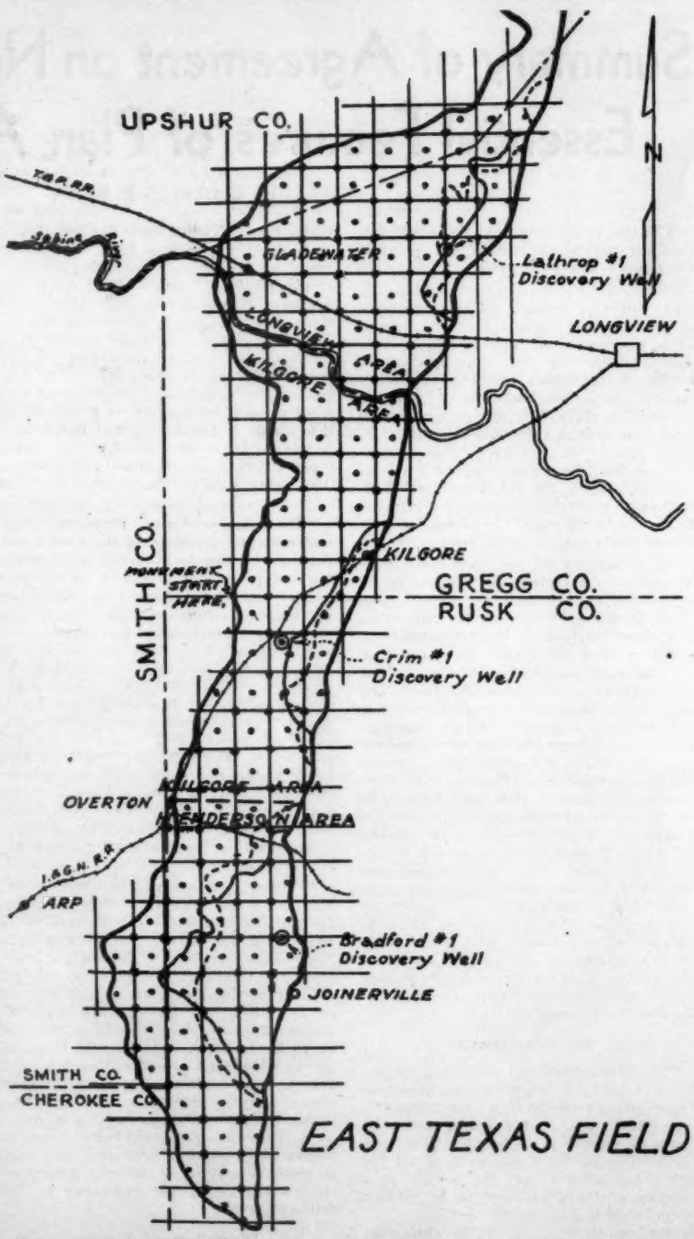
Engineering Problems

Many small operators may object to this method because they will contend that they do not have technical staffs available to do their engineering work and are therefore unable to compete with the larger companies who have well-organized geological and production departments.

Such an argument may be answered by calling attention to the fact that there are many consulting engineers and geologists well qualified to do this work for the smaller operators at a fee that will permit them to derive all of the benefits and avoid the penalties. The costs will not be out of proportion to the actual benefits derived by the application of engineering principles to the operations of the oil fields of Texas.

Because of the basic fact that there is a direct relation between bottom hole pressures and the well's capacity to produce, the production department of the petroleum industry will in the future, make use of these data and the day of the old hit-and-miss methods and strict competition in the securing of oil will be discarded.

Map Showing General Plan for Key Wells in East Texas



Schematic arrangement of proposed plan for subdividing East Texas oil field to determine position of key wells for securing bottom hole pressures. Monument to be placed on Gregg-Rusk County line at southeast corner of William H. Johnson Survey, Gregg County. Map is not to scale

Proposal for Pooling of Tankers Causes Protest; Plan Is to Make Vessels Common Carriers

By CHARLES E. KERN

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Dec. 3.—The American Mineral Spirits Co., James B. Berry & Sons Co., Crown Central Refining Co., the Hartol Products Co. and other independent companies have filed charges with the Department of Justice and with the U. S. Shipping Board alleging that 35 of the major oil companies and so-called independent oil tank ship owners have entered into an illegal agreement to pool their oil tank ships, to make them common carriers. The result of the agreements entered into by these major oil companies and independent oil tank owners, it is alleged, is to permit them to include in the pool not only oil tanks in active commercial use but also oil tanks tied up at wharves and not only not in use but largely not in condition to be used without extensive repairs.

The terms of the agreement it is alleged provide that out of the 42 cents a barrel rate from Gulf ports to the Atlantic Coast ports 6 cents a barrel is to be paid to nonactive oil tanks in condition for service and 3 cents a barrel for tanks not serviceable and requiring extensive repairs. This agreed rate it is alleged of 42 cents a barrel compares with the average present ocean rate of about 19 cents as determined by the U. S. Tariff Commission in its report on comparative cost of petroleum and products delivered at Atlantic Coast seaports from Venezuela and from Gulf ports of the United States.

The complaining companies take the position that this pooling of oil tanks is illegal.

They declare the operation of the pool will put the small refiner out of business so far as deliveries to their agents in New York are concerned and they will have to sell their products to firms having an interest in the pool or not sell at all. This will result they say from the fact oil companies interested in the pool of oil tanks will, through revenue derived from that interest, be enabled to ship at practically the present ocean rate of 19 cents, whereas outsiders will pay 42 cents a barrel, a differential of 21 cents a barrel.

This, it is alleged, will nullify the present oil tariff to the extent of about one-half a cent a gallon as ocean rates from Venezuela, and the Dutch West Indies will not be changed.

Present Rates

Gasoline now moves from Gulf ports to New York from three-eighths to one-half of 1 cent a gallon, the distance being 1,900 nautical miles.

The foreign oil tanker from the Black Sea moves to New York with a rate of one-half of 1 cent a gallon, the distance being 5,200 nautical or 2½ times greater than the Gulf to New York route.

These are the alleged facts on which the opponents of the pooling of oil tank ownership of the major companies base their charge that such action will nullify the excise tax on imported petroleum and products and at the same time make impossible shipments by independent oil refiners of their products from Gulf ports to New York distributors.

Government Viewpoint

The committee of the protestants against the consummation of this oil tanker agreement interviewed Mr. Snyder, assistant attorney. To them, it is said, he stated that he had been personally investigating the proposed tanker pool for the past two weeks; that he had heard of the postponement of the plans some time late in October but that the matter has been fully revived again and he is now in possession of a draft dated November 10 which is being circulated for signature by the various parties.

After considering this matter for several weeks Mr. Snyder said he has come to the conclusion that these people can probably qualify as common carriers, and that in making his recommendation to Asst. Atty. Gen. John Lord O'Brien he will probably state the tanker pool as being legal under the Shipping Act.

It is also reported that Mr. Snyder said that he had received advice from independent oil companies and that in their opinion tankers can be operated as common carriers. Mr. Snyder suggested that from his point of view he felt the independents might be much better off under a tanker pool operating tankers as common carriers than under the present regime. He stated, it is said, that once the shipping board has given approval, it will demand that adequate service be given to prevent substantial withdrawals under the provisions of the agreement, as a refusal to give such service.

The committee now practically is turning its attention to the shipping board and to Congress in prosecuting its contention against the formations of the "Tanker Pool," although the formal reply to be received from the Department of Justice has not been received. It is possible when the matter comes before Attorney General Mitchell he may take another view from that expressed by Mr. Snyder.

In Washington the committee in opposition to the "Tanker Pool" is represented by John H. Nelson, formerly chief of the petroleum section, minerals division, Department of Commerce.

Summary of Agreement on New Tanker Pool; Essential Features of Plan Are Outlined

By CHARLES E. KERN

The essential features of the agreement to form the Oil Transport Management Conference are as follows:

"That for the purpose of establishing and promoting regular, adequate, economic and efficient operation of the hereinafter referred to oil tank vessels as common carriers for the transportation of crude oil, petroleum products and other liquids, and of stabilizing freight rates in connection therewith, the parties hereto hereby associate themselves together in, and create and organize in the manner and on the terms and conditions hereinafter set forth, the Oil Transport Management Conference (hereinafter referred to as the "conference"), and vest it with power and authority as follows:

"1. Meetings of the conference may be called at any time by the chairman, appointed as hereinafter provided, and shall be called by him on the request of any three parties to the conference, on not less than 24 hours' written notice, stating briefly the purpose of the meeting, unless notice is unanimously waived. The parties to the conference shall have one vote for each 3,500 tons of the cargo carrying capacities of the vessels, determined as provided in Article 3 hereof, under the management of the conference as hereinafter provided at the time the vote is taken, on all matters properly before the conference. A majority of all the parties hereto shall constitute a quorum of the conference, and, except as otherwise may be provided, a majority of all the accredited votes of all the parties present at any meeting of the conference shall be decisive of any matter within the scope of this agreement and binding on all of the parties hereto. The conference may adopt rules and regulations for the conduct of its business.

Managing Board

"2. The conference shall be governed by a managing board of six members (hereinafter referred to as the "board"), who shall be elected annually from officers or representatives of the parties to the conference by a majority of all the accredited votes of all the parties at a meeting of the conference to be held at 11:00 o'clock a.m. on the first ..... in the month of ..... in each year during the term of this agreement; provided that not more than one officer or representative of each party hereto shall be eligible for election to the board, and that at least two members of the board shall be officers or representatives of owners of oil tank vessels not engaged in the transportation of crude oil or petroleum products belonging to such owners, or holding, subsidiary or associated companies thereof; and provided further that the withdrawal of all the vessels of any party from the management of the conference shall disqualify any officer or representative of such party as a member of the board. A member of the board may be removed for good cause by the same majority vote as required for election. Any vacancy in the board shall be filled as in the case of an original election.

"The parties hereto agree to place under the management of the conference, for use in the transportation of crude oil and petroleum products, as common carriers by water, on regular routes on the high seas from port to port, certain oil tank vessels, entitled to engage in the coastwise trade of the United States, whose names and cargo capacities, determined in barrels of 42 gallons each, for the carriage of oil of 30 degrees A.P.I. gravity, on assigned summer freeboards, after allowance of 2 per cent for expansion of cargo and the weight of fuel, fresh water and stores customarily carried on a voyage from a United States port on the Gulf of Mexico to New York, shall be filed in writing with the conference within five days after the effective date hereof.

"Provided, however, that any vessel may, on sixty (60) days written notice, be withdrawn from the management of the conference at the end of any year for reserve, or for use in foreign trade or in the transportation of crude oil, petroleum products or other liquids shipped in fulfillment of present existing contracts and extensions therein authorized or to be delivered (a) into the tanks of the party owning or controlling any such vessel, or a holding, subsidiary or associated company thereof, or (b) to a consumer for his or its own use. Any vessel so withdrawn, or a substituted vessel of substantially similar type and size, may be again placed under the management of the conference at the beginning of the following year.

Disposition of Vessels

"The conference shall have the right at any time to require any vessel owned or controlled by any party hereto, to be placed under its management during such period as the board may determine, while such vessel is not required, or held in reserve, for use in foreign trade or in the transportation of crude oil, petroleum products or other liquids shipped in fulfillment of present existing contracts and extensions therein authorized or to be delivered (a) into the hands of the party owning or controlling any such vessel, or a holding, subsidiary or associated company thereof, or (b) to a consumer for his or its own use. The parties shall promptly inform the board of all vessels which are free from such commitments.

"A vessel, when not under commitment, may be withdrawn from the management of the conference at any time upon the substitution therefor of a substantially similar vessel. Withdrawal of any vessel for scrapping may be made at any time when not under commitment. Substitution shall not be required, but may be made, for any vessel lost. Any vessel found by the board not to be in suitable condition for efficient service may be returned to its owner or chartered owner, unless reconditioned satisfactorily to the board.

"The board shall have authority to fix and collect all freights and other charges for the transportation of cargo by the vessels under the management of the conference. The freight rates charged per barrel for the transportation of cargo from one safe United States port on the Gulf of Mexico to one safe United States port north of Cape Hatteras not east of New York (hereinafter referred to as the 'Gulf/New York range') shall be deemed basic rates, and the freight rates charged for the transportation of cargo between other ports shall be equitable equivalents of such basic rates. The masters of the vessels in service hereunder shall sign bills of lading and other shipping documents, in form prescribed and as requested by the board, covering all cargo shipped or to be shipped on board said vessels.

"The earnings received from the operation of all vessels under the management of the conference, after deduction of all expenses and liabilities incurred by the conference, shall be paid and distributed to the owners and chartered owners of all the vessels in full compensation therefor, as follows:

"(a) On account of vessels laid up, payments at the following rates per bar-

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Addition of Small Refineries in East Texas Field Cause Increase in Mid-Continent Operations

By W. T. ZIEGENHAIN

Mid-Continent refinery crude schedules will be approximately 8,000 bbls. greater during December than during November. The bulk of the increase is reported by East Texas plants, a total of 20 of which have adopted definite operating schedules for December. The number of East Texas plants continues to increase and four have added to the list this month bringing the total completed and building to 26 and their combined capacity now approximates 83,000 bbls. daily.

Oklahoma and West Texas plants also show small increases in the refinery operations for December, while small decreases are reported in the schedules of refineries located in Kansas, North Texas, North Louisiana and Arkansas.

Total runs in all Mid-Continent refineries still stay considerably under those of a year ago. Also, 1932, will be known as a year in which refinery operations in the Mid-Continent were held within a rather narrow margin from month to month, the highest schedule being shown for June when 440,765 bbls. were estimated and the lowest was that for October when 401,995 bbls. were reported as the daily estimate of runs. In contrast to this are the maximum and minimum schedules of 1931 in which 590,545 bbls. were reported for August and 449,634 bbls. for March, a difference of more than 140,000 bbls. daily.

From the above figures it may be assumed that the refinery runs were near the minimum during 1932. The comparison also reflects the constructive, cooperative endeavors made to hold down runs to market demands over the entire area.

Mid-Continent Refinery Operations

Crude Runs to Stills

	1929	1930	1931	1932
January 1	508,550	535,460	478,795	405,910
February 1	506,800	519,355	470,125	411,280
March 1	514,950	531,500	449,634	401,155
April 1	530,530	555,250	497,391	419,750
May 1	577,500	574,300	510,640	436,160
June 1	583,030	572,250	567,915	440,765
July 1	565,830	548,475	588,840	433,255
August 1	555,250	526,400	590,545	427,710
September 1	552,300	498,710	588,105	430,430
October 1	544,720	518,800	472,190	401,995
November 1	545,473	506,700	480,440	408,180
December 1	540,630	478,360	456,525	416,275

Operations by Districts

	December Dy. crude capacity (bbls.)	December Dy. crude runs (bbls.)	Nov. Dy. crude runs (bbls.)	Dec. daily increase (bbls.)
Arkansas	48,000	18,800	19,550	*750
Kansas	156,500	77,600	80,400	*2,800
North Louisiana	41,000	24,950	25,950	*1,000
Oklahoma	309,900	137,700	132,950	4,750
North Central Texas	210,300	88,335	89,790	*1,455
West Texas	143,100	38,145	35,700	2,445
East Texas	83,100	30,745	23,840	6,905
Total	991,900	416,275	408,180	8,095

*Decrease.

Markets Affected

A most interesting and vital development, in so far as the Mid-Continent refinery market is concerned, is the growing number of East Texas plants. There are 26 such refineries listed in the accompanying table, 20 of which are operating, 5 are shut down and 1 is shown building. There are other small units proposed. Although their combined capacity is not large they introduce new problems as each starts up. Several plants added within the past month are located away from railroad lines. The crude is brought into the plants by truck and the refined products are sold through filling stations located along the principal highways throughout the East Texas area or they are trucked into Dallas and Fort Worth and other metropolitan areas and disposed of generally at prices below the average of the market.

While it is difficult to offer definite instances of where subnormal prices are being paid for the refinery products, it is generally conceded by the larger and older companies operating plants in the North Central Texas area that their independent jobber business is being taken away from them almost without a struggle.

Under these strained market conditions, the building of so many small units can only be explained by the fact that crude oil is available out of the East Texas Field at prices substantially below that posted by the major buyers. The curtailing of crude production has had its great benefits but from a refinery market standpoint the same general stability of crude oil prices has not been reflected in the refined oil price structure. Motor fuel prices in the Mid-Continent and the prices of the other products are below what would be necessary for the most efficient refinery to receive in order to pay operating costs and provide for fixed charges if the posted price of crude is paid, so, it becomes obvious that the small skimming plants in the East Texas area must either operate on crude produced or purchased under the market or draw on money reserves. These factors are ever present in other fields as well but come into play in the East Texas area because of the immensity of the potential and actual crude production and its rather strategic location with respect to a refinery market.

Crude runs in the East Texas Field during December will approximate 31,000 bbls. daily compared to an estimate made for November of about 24,000 bbls. This increase is accounted for by starting up three new plants and resuming operations in another. One plant was closed down in December that operated last month. The four plants added to the list include the Woodland Refining Co. at Kilgore, the Pennant Refining Co. also at Kilgore, Panama Refining Co. at Overton and the V.E.O. Refining Co. at Big Sandy. The Woodland refinery has a capacity of 250 bbls. and is located on the I.&G.N. Railroad. The plant is equipped to skim only. The Pennant plant has a capacity of 250 bbls. and it is not located on a railroad. Both the crude and refinery products are transported by truck to and from the refinery. The Panama plant was recently completed as a skimming unit, and is capable of handling 3,000 bbls. per day. The new V.E.O. plant at Big Sandy in Upshur County is now under construction and will have a skimming capacity of 2,000 bbls. per day. The refinery is expected to be ready for operation later in December. This is the second refinery to be built in the East Texas Field by the V.E.O. Refining Co., the other plant being located at Gladewater.

Several changes in names and ownership have occurred among the East Texas group in the past month. The 200-bbl. skimming plant at Kilgore, formerly operating as the Guillory Refining Co., is known now as the Unit Refining Co. The name of Rusk Refining Co., which operates a 3,000-bbl. plant at Overton, has been given to the same plant as formerly operated under the name of the Diamond Refining Co. The 200-bbl. refinery at Gladewater formerly operating as the H.&M. Refining Co. is known now as the Sabine Refining Co.

There were but few changes in the status of the operating and shut-down plants, one exception being the starting up of the Constantin Refining Co.'s plant at Overton. This refinery has been idle for many months, but has resumed operations on a basis of running about 400 bbls. per day.

Oklahoma

Oklahoma refinery operations show a slight increase during December, according to crude runs, but three plants have been added to the list of those idle. These are all located in the Oklahoma City Field and the shutting down is considered as temporary in each case. The reason for the low schedule of runs in the Oklahoma City refineries is attributed partly to the low refined oil prices and partly to a shortage of crude. Included in the list of idle Oklahoma City plants on the first of the month are the Firestone Refining Co., Capitol City Refining Co., Gulf States Oil Corp., Major Oil Co., Speedway Gasoline Refining Co. and the York Refining Co. Garber Refineries, Inc., has shut down its plant at Garber for the first half of December, but expects to resume operations in the second half. The Western Oil Corp. has also shut down its plant at Beckett.

North Central Texas

Very few changes are reported in the December operations of the North Central group of refineries. Total crude runs will be 88,335 bbls., compared to 89,790 bbls. in November. There is no change in the status of the plants which were operating and those which were shut down during November.

Kansas

Kansas refinery runs show a small decrease during December compared to the past month. This is accounted for principally by the shutting down of the Barnsdall Refineries, Inc., plant at Wichita. Three plants will soon be added to the list of those operating in Kansas, according to plans and work under way. The Dickey plant under construction at McPherson is nearing completion and is expected to be in operation near the close of the year. The Globe Oil & Refining Co.'s plant at the same point is also in the final stages of construction, but will not be completed for operation before February. The third plant expected to be added is that of the Sunshine Refining Corp. at Hutchinson. This plant has a crude capacity of 3,000 bbls. daily.

North Louisiana and Arkansas

Except for the shutting down of the Berry Asphalt Co. plant at Waterloo, Ark., the operations of the North Louisiana group of refineries remains unchanged. This plant has operated intermittently in recent months.

West Texas

Refinery operations in the West Texas group show a small increase for December, based upon the crude to be run. This increase is accounted for in its entirety by the resumption of operations in the Pecos plant of the Burford Oil Co.

REFINERY OPERATIONS IN EAST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs— December	November
Alamo Refining Co., Camps Switch	2,500	(*)	(*)
Arrow Refining Co., Overton	2,500	1,200	250
Beacon Oil & Refining Co., Henderson	2,500	2,300	2,000
Boone Refining Co., Arp	500	880	1,000
Central Refining Co., Friars Switch	7,500	(*)	(*)
Constantin Refining Co., Overton	3,000	400	(*)
East Texas Refining Co., Henderson	6,000	(*)	2,000
East Texas Refining Co., Longview	10,000	8,000	4,800
Gladetex Refining Co., Gladewater	500	300	300
Gladewater Refining Co., Gladewater	500	(*)	(*)
Hyland Refining Co., Kilgore	2,500	1,000	1,000
Johnsonville Refining Co., Omega	200	40	10
Kilgore Refining Co., Kilgore	1,500	1,500	800
Lake Refining Co., Gladewater	500	200	200
Overton Refining Co., Overton	3,500	1,900	1,300
Panama Refining Co., Overton	3,000	450	(*)
Pennant Refining Co., Kilgore	250	100	(*)
Petroleum Refractionating Co., Longview	10,000	(*)	(*)
Rusk Refining Co., Overton	3,000	900	800
Sabine Refinery Co., Gladewater	200	120	140
Sinclair Refining Co., Camps Switch	5,000	1,500	1,600
Taylor Refining Co., Tyler	15,000	9,200	7,000
Unit Refining Co., Kilgore	200	75	90
V.E.O. Refining Co., Gladewater	500	500	450
V.E.O. Refining Co., Big Sandy	2,000	building	.....
Woodland Refining Co., Kilgore	250	100	(*)
Total	83,100	30,745	23,840

*Shut down.

(Continued on Page 30)

Bottom Hole Pressure Data in East Texas Field Has Revealed Many Things of Importance

By JOHN A. RITTER
Sun Oil Co., Dallas, Tex.*

Abstract

The East Texas oil field has awakened public interest in, and has advanced the general understanding of, reservoir pressure. The author used pressure maps and production charts to show changes in East Texas reservoir pressure during 1931-1932.

Occurrences causing loss in reservoir pressure and instances showing the effect of ratable production are considered followed by mention of the water drive as a source of the reservoir energy possessed by the dissolved gas in the oil.

East Texas is one of few flush fields presenting a slow water drive and its effects are mentioned together with different reservoir pressure characteristics of wells due to sand conditions as developed by reservoir pressure measurements. Attention is called to the difference in the capacity of leases to produce and to the conditions set up by close well spacing.

After acknowledging that the present system of ratable production is an improvement over that which existed prior to military shut down, the paper concludes with a plea for a revision in the method of ratable production to permit a more equitable division of recoverable oil.

The development and operation of oil properties has been receiving much engineering study during recent years. Many theories have been advanced which have required practical demonstration on a large scale before they could receive the consideration which they might merit or receive any general acceptance. The development in East Texas is occurring during a period when general economic conditions are unsettled, when much criticism is being directed toward our political and legal machinery, and when nearly every industry is confronted by difficult problems of production, manufacture, management and distribution.

The attention and interest of the entire oil industry has been focused on the East Texas oil field. It has a prolific sand, is of great magnitude and is geographically located near deep water. It is one of the largest pools in history and because its ownership is divided among all classes of operators, it presents in one area practically every economic problem which confronts the oil producer, and is giving those interested in various branches of the oil industry an opportunity to observe regulated and unregulated operation in a single field. It has afforded a most remarkable opportunity for study because it is to a large degree interconnected over its entire area. By virtue of its enormous capacity it has been able to withstand early abuses caused by too rapid and concentrated withdrawals of a magnitude which would have greatly harmed, if not exhausted, a field of smaller size. These circumstances have permitted or have caused to be permitted, practices which may prove to be revolutionary in the oil industry.

Pressure Changes

A few years ago the terms "Reservoir Pressure" and "Reservoir Energy" were infrequently heard and little understood; they received scant consideration in the practical operation of most properties. It has been found that the surface pressure observations do not reflect accurately the actual reservoir conditions, therefore subsurface pressure measurements are now depended upon almost entirely when studying the characteristics of wells.

Shortly before the discovery of the East Texas Pool reliable instruments had been developed for accurately measuring and recording reservoir pressures, so from its inception this field has been under close observation. Many events have been recorded showing the effect upon the reservoir pressure caused by different drilling densities, unequal withdrawals, and other operating practices.

The accumulated data have been widely distributed and discussed. It is hoped that such investigations and discussions will eventually result in a realization that correctly interpreted facts of this nature will materially assist in establishing a more equitable division among lease owners of the recoverable oil and gas which underlie their respective properties, and will aid in assigning to each a proper share in the use of the reservoir energy. Such a realization on the part of operators, large and small; land and royalty owners, as well as a large body of the interested and affected public, would do much to hasten the adoption of producing methods which appear to be necessary and desirable for a proper and reasonable conduct of oil operations.

Figure 1 shows graphically the progress of the development and the reservoir pressure changes which have occurred in East Texas. This chart illustrates the effects of unregulated operation which, prior to the military shutdown August 17, 1931, permitted a total withdrawal of 60,241,000 bbls. of oil from 1,644 completed wells and caused the reservoir pressure to drop rapidly from the original pressure of 1,630 pounds to approximately 1,500 pounds.

No oil was produced during the 19-day military shutdown, and when it ended on September 5, 1931, the evidence then available indicated that the reservoir pressure had increased slightly, as shown in Figure 1.

The reservoir pressure declined less rapidly after regulation became effective. During the year September 5, 1931, to September 5, 1932, the reservoir pressure dropped about 100 pounds; during this period the total number of wells in the East Texas Field had increased to 7,800 and approximately 130,000,000 bbls. of oil had been produced.

Changes in Pressure Contour

Figure 2 shows the change in position of the 1,400-pound pressure contour during the interval between November, 1931, and June, 1932.

The withdrawal of 84,000,000 bbls. of oil from 2,642 completed wells set up the condition outlined by the solid line curve for November 1, 1931.

The withdrawal of an additional 80,000,000 bbls. of oil from 6,379 completed wells during the following six months ending June 20, 1932, caused this same 1,400-pound contour line to shift as shown by dotted line. This illustrates the manner in which uniform withdrawals acted to correct the distorted contours caused by unregulated production practices.

It would seem that the reservoir pressure data with which such maps as these are prepared is evidence that a system of regulated production is a step very much in advance of the system practiced prior to the military shutdown.

Numerous experiences in East Texas have demonstrated that a large withdrawal of oil from any one well is accompanied by a drop in reservoir pressure, as well as a drop in the productive capacity of wells in the vicinity and that the pressure is gradually built up when the heavy withdrawal ceases. It was found that while a well in the Kilgore area was on fire, other wells near it were adversely affected. During a five-day period, July 1, 1931, to July 6, 1931, one well registered a drop in closed-in surface casing pressure of 30 pounds although surface tubing pressure remained steady. From July 6 to July 15 the same well was allowed to flow through open tubing and a reduction in daily production was noticed from 10,840 bbls. to

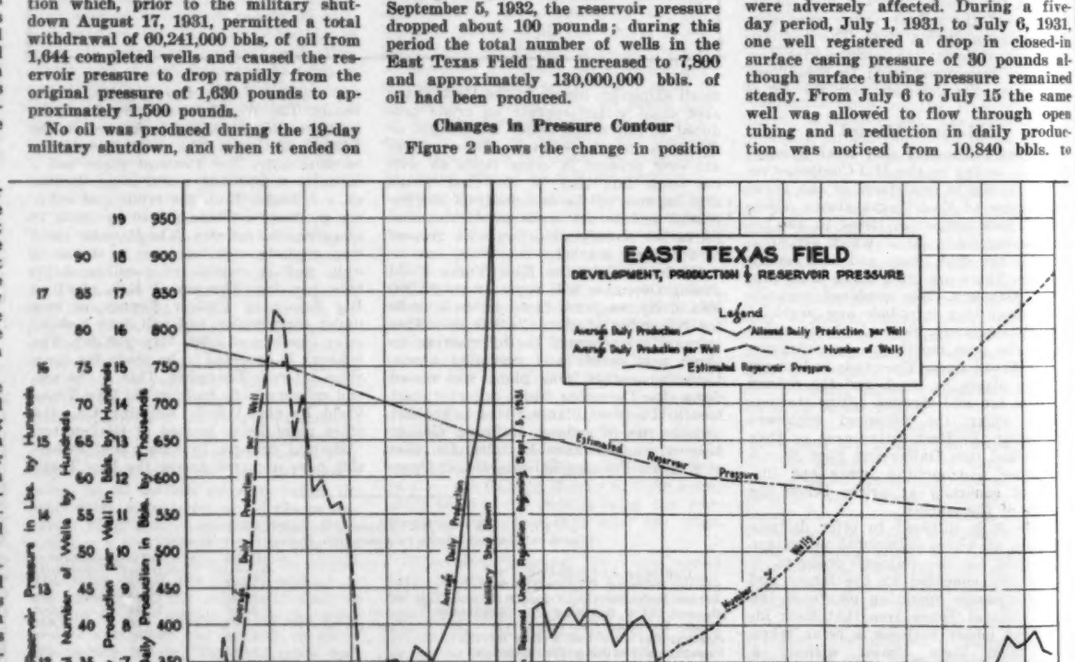
EAST TEXAS FIELD
DEVELOPMENT, PRODUCTION & RESERVOIR PRESSURE
Legend
Average Daily Production
Allowed Daily Production per Well
Average Daily Production per Well
Number of Wells
Estimated Reservoir Pressure
Estimated Reservoir Pressure
Average Daily Production per Well
Average Daily Production
Total Number of Wells
Production Resumed Under Regulation Beginning Sept. 5, 1931
Military Shut Down
Allowed Daily Production per Well
Estimated Reservoir Pressure in Lbs. by Hundreds
Total Number of Wells by Hundreds
Average Daily Production per Well in Bbls.
Average Daily Production in Bbls. by Thousands
Jan. Feb. Mar April May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. April May June July Aug. Sept. Oct
1931
1932

Figure 1

*Before A.P.I., Houston, Tex. The author's title for this paper is "Pressure Maintenance in East Texas."

Note—Some data for the pressure curve Figure 1 was obtained from article "Applying Subsurface Pressure Determinations to the Problems of Oil Well Production" by D. G. Hawthorne, Ponca City, A.I.M.E. meeting, September, 1932.

9,125 bbls. This was accompanied by a further reduction in surface casing pressure of 30 pounds. The sand in this area is very prolific and highly permeable and reservoir pressure at this well was soon restored when the fire was mastered.

An area southeast of Gladewater presents as another example a well which flowed out of control for a period of approximately 18 days, and when placed under control not long thereafter, was found to have the same subsurface pressure, namely 1,598 pounds, as a well some 3,000 feet away which had just been completed.

Prior to the military shutdown on August 17, 1931, reservoir pressure measurements on a lease located centrally east and west but in the southern part of the field, developed the fact that this lease had a much lower reservoir pressure than might have been expected since its production had always been restricted

Figure 2

in accordance with existing field regulations. Investigations, at that time, disclosed the fact that several operators in this vicinity were producing large quantities of oil from their individual wells regardless of existing restrictions. The drop in reservoir pressure noticed on this lease indicated that much of the oil produced by neighboring operators, and much of the reservoir energy used in producing their oil, must have been supplied by that part of the reservoir underlying the lease where the pressure was unaccountably low. Subsequent pressure measurements prove this to be correct because since August 18, 1931, a gradual increase in pressure has been observed on this lease. A well completed April 15, 1931, had the record shown in Table 1.

TABLE 1
Pressure Record of an East Texas Well

Date	Reservoir pressure
8-18-31	1,024
8-29-31	1,170
9-24-31	1,159
11-11-31	1,199
2- 4-32	1,233
4-20-32	1,261
5-25-32	1,279
6-16-32	1,275
7-21-32	1,283
8-19-32	1,283
9-20-32	1,291

Approximately 85 wells which were not flowing in August, 1931, prior to the military shutdown, were flowing their allowable production in June, 1932.

Oil Migration

The industry first became interested in the solubility of gas in oil about five years ago and the results obtained from ensuing investigation have changed materially our conceptions regarding the function of gas in oil and its effect on the physical properties and movement of oil in the reservoir. Experiments with East Texas crude oil are now being made in an effort to determine accurately various properties of the crude oil and gas as it exists in the East Texas reservoir. Experiments already made using East Texas crude oil and East Texas natural gas, as well as pressure data obtained at wells by the use of recording instruments, indicate that all of the natural formation gas originally present in the East Texas reservoir proper was dissolved in the oil and that the gas continues to remain in solution at any reservoir pressure above approximately 900 pounds. It has been noticed many times that the density of the columns of fluid in wells flowing through tubing changes at a point in the tubing at which the gauge pressure is approximately 700 pounds. This happens in many cases at a depth of approximately 2,500 feet and we infer it is the point at which free gas is being liberated.

A relatively high pressure now exists on the gas in most of the reservoir so that the gas still remains in solution in the oil except in isolated areas near the eastern edge of the field where low reservoir pressures are observed.

If present reservoir pressure conditions prevent the accumulation of any free gas in the reservoir it follows that the withdrawal of oil is causing a movement of fluid to take place in the reservoir in a manner and at a rate which keeps all of the pore spaces in the sand filled with fluid.

It is thought that the causes of this movement are twofold. Due to the pressure differential set up by the withdrawal of fluid, there is the actual movement of fluid through the sands in a general direction from west to east aided by an additional movement of fluid caused by its own expansion or contraction. This latter expansion or contraction in the fluid occurs whenever the pressure on the fluid in the reservoir is lowered or increased due to varying rates of withdrawal.

Water Drive

The reservoir pressure in the East Texas sand resulted from the water pressure to which the reservoir is subjected along the west side.

Under properly regulated oil withdrawals the water pressure exerted along the west side of the reservoir will supply "reservoir energy" to the gas within the reservoir, which energy in turn can be used to assist the water pressure to raise the oil to the surface by natural flow.

Table 2 lists several wells and their reservoir pressure as observed soon after completion, also their reservoir pressure observed quite recently:

TABLE 2
Comparison of Well Pressures After a Year's Operation

Well	Loc.	Date	Static res. press.	Date	Static res. press.
		Western Zone			
A	North	10-29-31	1,521	9-24-32	1,467
B	Central	8-13-31	1,453	8- 9-32	1,425
C	South	8-18-31	1,522	9-20-32	1,521
		Central Zone			
D	North	6-21-31	1,445	9-23-32	1,367
E	Central	4-21-32	1,480	9-22-32	1,434
F	South	8-18-31	1,034	9-20-32	1,291
		Eastern Zone			
G	North	1-18-32	1,465	9-25-32	1,362
H	Central	10-18-31	1,418	9-22-32	1,384
I	South	1- 8-32	921	9-27-32	917

Water was first encountered along the western edge of the field in March, 1931, at a depth of 3,317 feet subsea level.

Since that time approximately 140 wells either have been drilled deep enough to encounter water or have been operated in such a manner that water has been produced with the oil regularly, or at least made its presence known.

The original water table was estimated by various authorities to be 3,320 feet subsea. This was the approximate average depth at which water was encountered in the early stages of the development. Estimates at the present time place the average water table at 3,311 feet subsea.

East Texas is but one of many oil fields in which a water drive has followed the production of oil. It is one of a very few, however, where a relatively slow water drive, accompanied by a regulated production program, has been in operation over a large area for a sufficiently long interval of time to permit all classes of operators to observe and study its practical effect.

Previous Woodbine sand areas developed in Texas were produced under conditions which exhausted the reservoir pressure rapidly as compared to East Texas. Due to pressure conservation certain wells in East Texas now have characteristics which are quite different from comparably located wells in fields where the reservoir pressure was rapidly exhausted.

For example, the maintenance of high reservoir pressure undoubtedly accounts for the fact that some East Texas wells are flowing 16 months after the first appearance of water. Some have continued to flow while producing as much as 60 per cent water. One such well, when put on the pump, required as little as 5 horsepower to pump the allowable oil each day although producing as much as 80 per cent water.

Experience in other areas has proved that a slow water drive properly controlled does permit of more efficient use of reservoir energy in the production of oil and secures for the operator a greater recovery per acre. The East Texas reservoir presents at this time a flush field where a comparatively slow water drive

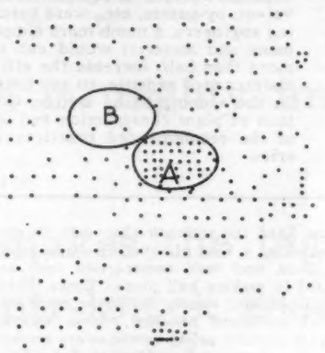

Figure 3

is functioning under reasonably effective control. Slow and properly regulated fluid withdrawal has also permitted pressures to be conserved in all types of wells and has discouraged wasteful use of reservoir energy by one operator at the expense of his neighbor.

Well Potential

Inspection of cores has shown that the thickness of the oil bearing sand underlying the East Texas oil field varies materially, also decided differences are apparent in the texture of the sand comprising the reservoir.

Reservoir pressure measurements have conclusively demonstrated that wells which penetrate large bodies of highly permeable sand are capable of maintaining a high reservoir pressure when flowing. For instance, a certain well has a closed-in static reservoir pressure of 1,510 pounds and a pressure of 1,498 pounds when flowing 3,000 bbls. per day. This is only 12 pounds pressure drop for a 3,000-bbl. rate of flow.

Conversely it has been demonstrated frequently that wells which penetrate thin bodies of sand having low permeability are not capable of maintaining a high pressure when flowing. Witness a well which has 1,494 pounds static reservoir pressure, but when producing at a rate of 1,000 bbls. daily, can maintain a pressure of only 1,022 pounds. This is 472 pounds pressure drop for a 1,000-bbl. rate of flow. A more extreme example is a well showing a static pressure of 1,365 pounds and a flowing pressure of only 942 pounds when producing 168 bbls. per day. This is 432 pounds drop for a 168-bbl. rate of flow.

That wells or leases possess different potential and ultimate capacity is generally recognized and is evidenced by the fact that properties in sectors having thick sands of high permeability in which rapid repressuring occurs, are more in demand than leases which are located in sectors where it is known that the sands are of low permeability in which large pressure declines are followed by slow pressure restoration. Owners know from experience that properties which have prolific sands are capable of yielding larger recoveries per acre than can be had from less permeable areas. Reservoir pressure measurements assist in identifying such areas.

Well Spacing

The fact that heavy withdrawals adversely affect adjacent areas has been established in East Texas. Figure 3 shows the pattern of well spacing in one East Texas area. Such concentrated and irregular spacing of wells sets up a drainage condition similar, except in degree, to conditions which have been cited previously. Operating the area shown in Figure 3 under a system of "equal well allowables," permits unequal withdrawals as between comparable areas "A" and "B." It is hardly just to permit wasteful use of reservoir energy and give a recovery of 57,350 bbls. of oil per month to densely drilled area "A" while area "B" of equal size and similar capacity is allowed to produce only 4,675 bbls. During the time involved in the drainage of the pool, area "B" must provide some of the energy necessary to maintain reservoir pressure under the densely drilled area "A." The inequity is obvious.

Prior to the military shut down in August, 1931, we saw that the effects of dissipation of reservoir energy caused many wells to cease flowing.

Close well spacing and abnormally heavy fluid withdrawals were responsible and it became necessary to abandon a system which permitted, and even encouraged so much physical waste.

Conclusion

The present system unquestionably offered a means to improve what everyone recognized to be a serious situation. However, in its practical application it tends to place on a basis of equality highly prolific areas and relatively unproductive areas. It does not encourage an effective and desirable spacing of wells for the purpose of insuring proper control of reservoir pressure.

Ratable production certainly promotes pressure maintenance for the benefit of an entire pool and much progress in this direction has been made in East Texas.

By combining their knowledge of sand conditions in a well with ideas gained from observation of reservoir pressure changes in the same well when it produces at different rates, and adding to this information a further study and observation of gas-oil ratios and flowing columns, engineers in East Texas have already accumulated many valuable facts. They are constantly adding to the general knowledge and understanding of the practical working conditions necessary for a proper and efficient use of reservoir energy. They are contributing an enormous amount of information, the consideration of which has already caused a reversal of attitude on the part of many who at the time the East Texas Field was discovered were opposed to suggested changes in oil field practice which in any way interfered with or regulated the manner in which they might wish to conduct their operations.

It is reasonable to assume that as more knowledge and experience are acquired an improved system may be developed and adopted which can better serve a pool having divided ownership. Such an improved system, while conserving the natural reservoir pressure, should take into account the varying size of individual tracts and should recognize their differences in capacity to produce because of sand conditions and structural position.

The objective should be to establish a rate of allowable production which will return to each owner his fair share of the recoverable contents of the pool.

I.P.A.T. MEETING

FORT WORTH, Tex., Dec. 5.—The program for the annual convention of the Independent Petroleum Association of Texas to be held in Fort Worth December 9 was completed and announced last week. In addition to the annual address by J. R. Parten, president, other speakers follow: J. E. Jones, New York, "Experiences and Competition": E. C. Bedford, Midland, "Gauging the Runs": E. O. Thompson, "Texas and Federal Control."

Developments in Natural Gasoline Manufacture Are Reflected in Safety Problems at Plants

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Simplify Construction and Operation of Plants

The natural gasoline industry, during the past few years, has undergone an almost continuous process of revision and simplification, which has considerably increased the safety factor in plant operation and dovetails into the theory of educating the operator, for the fewer complications the easier the problem of education becomes. Due to existing economic conditions, manufacturers, during recent months, have been concentrating on this problem toward the end of reconditioning and utilizing all dispensable material from the older plants in new projects.

In many plants it has been learned, that where an elaborate and expensive layout of equipment and a confusing arrangement of lines, valves, by-passes, etc., were formerly considered essential by designing engineers, a much more simple arrangement requiring less equipment and material would cut the investment and operating costs more than half, increase the efficiency of the plant and require less maintenance expense, to say nothing of the reduced accident hazard. In the accompanying article, the author discusses many of the details of plant construction and operation in relation to safety. Many of the recommended practices will also apply to petroleum refineries.

Designing engineers, seeing the folly of flagrant disregard of the laws of nature, are now giving first consideration to the basic dangers to operators which might be present, and it is only through such consideration of equipment as initially installed and to its maintenance that these ever-present dangers can be eliminated and the jeopardy to human life reduced. Before construction of a natural gasoline plant is started the grounds should be thoroughly studied with particular thought to location and spacing of buildings containing boilers or other equipment requiring open flame for their operation in relation to distillation units or other buildings which house equipment that processes flammable gases and in relation to the storage units. Maximum spacing should be given between such buildings, and never should there be connection between them. (State regulations in this respect should always be observed.) In addition to maximum spacing, whenever possible in laying out plant equipment, consideration should be given to locating boiler house or other open-fire zone in such position from other equipment that prevailing winds (year-round) will blow any escaping flammable vapors away from rather than toward the open-fire zone. Location of the fire zone should be further studied with relation to natural slope of the ground so that in case of leakage flammable liquids will drain away from rather than toward the fire zone.

All buildings should be of fireproof construction. Because of their high salvage value when necessary to dismantle, steel frame and sheet metal materials are generally considered most practical. Buildings housing distillation or processing equipment should be particularly well ventilated to prevent accumulation of explosive and poisonous gases and to assist in the cooling of high-speed machinery. Due to higher volatility of products and the fact that they have less warning odor, ventilation of buildings is probably of greater importance in the natural gasoline industry than in refining. All doorways should be kept free from obstructions, should be wide enough to allow easy transportation of machinery, fire equipment, etc., through them and should open to the outside.

When considering the question of sliding versus swinging doorways, both for ease of operating and for safety and escape in emergency, the swinging door hinged to open outward should be given preference and should be adopted for all doorways inside the plant fence proper. Windows hinged at the top or center of sides should be so installed that the lower half will open outward and high enough that the upper half when opened to the inside will not become a head bumping block, particularly if the window is located near pumps or equipment set near the wall with a narrow walkway between. Plenty of windows for natural lighting in the daytime will relieve eye strain. Stairs, offset floors, open drains, pits, pumps and other unnecessary hazards in building should be avoided in so far as possible.

Type of Tanks

Any and all tanks in the plant should be of such material and construction as will stand the service for which they were intended. In this connection it should be remembered that a flat head, electric or acetylene welded on a small tank or other piece of equipment, does not have the strength that may be expected of a head of tapering shape or of banana peel weld construction such as used in making bull plugs. Tanks, lines and pressure vessels should be equipped with sufficient pressure release valves, vents or other safety valves as are needed to give them a reasonable factor of safety when operating under maximum pressure. Safety valves for gas service should be so specified to insure obtaining valve and seat for positive shut-off. Also, bodies of exhaust or relief connections enlarged over the inlet size will do much to allow the safety valve to operate and give its rated relief both in volume and at the desired pressure. Safety valves should always be of noncorrosive material. Where the gas or vapor being handled is at a high pressure, several atmospheres, and the relief is to the air or near atmospheric pressure, refrigeration may set up thereby freezing the valve seat in an open or partially open position. Steam or hot air jacketed relief valves should be provided for such application.

Installation of lines and gates within the plant deserves much consideration where it usually gets little. Particular care should be exercised in keeping the plant free from unnecessary connections tying gas into steam lines. Well buried lines and good frost boxes play an important part in eliminating difficulties caused from freezing up in winter weather. Adequate and substantial drips should always be provided in lines where there is any possibility of flammable liquid. Gates installed on lines too high to be reached conveniently should be provided with extension handles. In many places where safety is of importance a simple arrangement of kidney valves, pilot valves and diaphragm regulators make an automatic system that is more dependable than is the human element.

The problems of the engine room used to be manifold. So well have they been taken care of in the fundamental designing of plants, however, that we will dispense with this portion of our problem by saying that the engines should be provided with adequate guard rails and shields around the movable parts to prevent men catching clothing, walking into or falling into them and that some remote control provision should be made for shutting them down without sending a man into the danger zone in the event of gas leakage or other trouble in the engine room. Suitable cranes, hoists, work tables and other facilities for handling cylinder heads and other heavy engine parts should be provided.

Lighting Methods

Lights with reflectors distributing light over the desired area are preferable wherever practical. A few lights well reflected and advantageously located will give better lighting and consume less wattage than a greater number of individual bulbs without reflectors distributed to give light where light is necessary. The nearer the approach to natural lighting the easier and better the operation and the less the attitude for neglect. Lights with or without reflectors should be enclosed in vapor globes and conduit wiring, vapor tight or oil immersed switches and safety outlets should be employed wherever there is possibility of flammable or explosive gas or vapor mixture. Light installations in engine rooms should be studied with relation to their position above the machinery. Filament breakage, due to harmonic horizontal vibration here, can be greatly reduced if the entire conduit and fixtures are swung on cushion hooks or other cradle effect. If possible each fixture should be so located as to eliminate the need for climbing over machinery to change light bulbs. Conduit wiring should never be installed behind line shaft where breaking belts will tear it out. Electric appliances and portable electric tools should conform to the National Electric Code.

Drains from tanks containing flammable liquids or from distillation units should not tie into drains from other tanks or buildings unless such adequate water or liquid seal is maintained as will prevent the leakage of such flammable vapors back through drain lines into such other tanks or buildings. This is also true of sewage drains from houses tying into plant drains. In addition to water seals above described, manholes or other means of venting vapors should be provided at all points of drain line junction.

Steam hose for washing floors or other equipment in buildings containing flammable products or around the storage batteries should be provided with "ground" as sufficient static electricity is generated to arc and ignite flammable gases, vapors or liquids. Adequate fire protection should be provided throughout the plant. The most important feature here is the water system. In the event of gasoline or gas leakage that is not ignited, the first thought is to get all fires and engines shut down without delay. For this purpose we have installed boiler snuff systems that operate from advantageous locations in the plant yard, cutting off the fuel supply and turning steam into the hot boiler box immediately. The engines may be shut down by closing the gate on the fuel header. This will prevent fire unless it is ignited from other cause.

Fire-Fighting Equipment

When fire is already started, the question is, what type of fire equipment is most efficient at different points in the plant. If the nature of the fire is such that it can be used successfully, some sort of snuffing equipment is most desirable. At storage batteries where steam snuff systems with control valves located at safe distances are practical this type equipment should be used. Some loading racks are also equipped with steam for this purpose. CO^2 type fire extinguishers, proving more practical and far more efficient on certain types of gasoline fires, are fast replacing other fire-fighting equipment. In places where foam is more practical the 40-gallon engines are being replaced with small portable foam generators giving far greater efficiency but dependent, of course, upon the water system. Still other types of fires where electricity is encountered require carbon tetrachloride extinguishers.

To prevent fires of spontaneous origin, closed containers for disposal of oily rags, waste and other flammable rubbish should be provided throughout the plant. These should never go more than 12 hours without being emptied. Most explosions being followed by fire, it seems advisable here to add a word regarding the material used in boiler fusible plugs. A report of a boiler explosion of the Carter Oil Co. caused our own company to establish a definite ruling regarding the metal (99.3 pure tin) to be used in these plugs. (Copy of this report may be obtained from the American Petroleum Institute, Dallas, Tex.)

In the operation of natural gas gasoline plants in areas where the gas processed is derived from sour crude, and where the hydrogen sulphide content of this gas varies from 50 to 6,000 grains per 100 cubic feet, approximately .1 to 9.5 by volume, the problems of corrosion and dangers to operating personnel from hydrogen sulphide have been given a great deal of attention.

In considering the equipment installed, whether it be additions to existing plants or an entirely new or independent installation, the individual in whose hands the final approval rests should fully understand and appreciate his problem either because of his own personal experience or from discussion and recommendation from the operating and technical personnel of his organization. A great deal of reliance can be placed in the recommendations of the various equipment manufacturers, especially those who have been fabricating equipment and materials for service under corrosive conditions.

The point of capital investment required to install new equipment, of special materials over standard materials, must be weighed carefully, giving thought to several things: first, length of life of plant; second, effect of downtime of equipment—in respect to value of lost production and in respect to accelerated corrosion of equipment, pipe fittings, etc., while the process is at a standstill. This last point is especially dangerous if oxygen or air be allowed to enter into any part of the equipment, as this increases

*Petroleum Section, Twenty-first Annual Safety Congress and Exposition, Washington, D. C.

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Materials

With direct reference to materials installed and in use, after operating some 20 plants in sour gas territory, three located in "West Texas" under most extreme conditions, experience has proven the justification of the increased initial investment to provide special materials for the various applications. A general list of proven materials and their application is given herewith, detail of fabrication of all joints to be dependent upon operating pressures:

Cooling coils. Operating conditions—Oil, gas, vapor, gasoline and water at temperatures from 250° F. or less, and operating pressures up to 325-pound gauge. All fluids or vapors through tubes. Cooling water on outside of tubes of varying degrees of hardness, effect only of increased scale formation. All condensed steam or water derived from processes containing sulphur compounds must not be returned to coil pit, but be dumped to sewer. Materials used—Admiralty metal and aluminium tubing very satisfactory. Cast iron, leadized wrought iron and plain wrought iron satisfactory in order named. Length of life dependent upon sulphur content present.

Heat exchangers, preheaters, coolers and condensers. Operating conditions—Oil to oil, oil to steam, vapor to water, gasoline to water. Temperature range 70° to 350° F. Pressures up to 325-pound gauge. Materials used—Same material as noted above and in same order. On heat exchanger for oil to oil service under very severe conditions, with the absorption oil containing sulphur compounds in large quantities, having absorbed same from gas, the entire shell, heads, tubes, return bends, of pure aluminum have been used. Steel tubes for heat exchanger and preheater service have been used with varying degrees of success, depending mainly upon the quantity of water in the oil. Corrosion is accelerated when the water content is appreciable under the temperatures of operation.

Absorbers, evaporators, dephlegmators, fractionating or rectifying columns. Operating conditions—Oil, water, gasoline and vapors. Up to 350° F. and 325-pound gauge. Materials used—Shells of all vessels of best grades of tank steel, rivet or welded construction to meet operating conditions. Additional thickness of plate economical on some equipment to offset corrosive action in operation. Bubble caps all of 12-16 per cent chrome or stainless steel. Manholes between trays where possible to allow inspection and replacement of internal materials.

Gate valves and stop cocks. Operating conditions—All service where liquids or vapors handled contain sulphur compounds. Materials used—Lubricated plug valves with rigid enforcement of continual lubrication and periodic testings of same for opening, closing and leakage.

Pumps and compressors—Rods and shafts of 12-16 per cent chrome or stainless steel. Pumps should be all iron fitted and no ordinary brass or other material should be used that is subject to corrosion.

Again it should be stated that each individual installation requires separate consideration, and reference to the general headings and the brief discussions covering each should aid in making the best selection of equipment or material. The necessary and yet most economical maintenance cannot be had unless proper selection of equipment and material has been made at the time of making the original installation. After reading through the discussion of each type of equipment it will be noted that maintenance must be considered when the equipment is first fabricated. In fact, to keep plug valves workable on gas and liquids containing hydrogen sulphide daily attention must be given same. In our plants in "West Texas" one man spends part or all of his time at this work and results to date have more than justified such action.

Clean-out Process

To keep the bubble caps and trays of the absorbers free of iron oxide and sludge and allow them to function at anywhere near their rated capacity, it has been necessary to clean them out every six months. This clean-out process is very similar to that of cleaning fire and cracking stills in refineries. In as much as this sludge contains a high percentage of hydrogen sulphide, which is evolved or released when exposed to the air, it is necessary to exercise every precaution to prevent asphyxiation of the workmen during this procedure. The usual steps in this cleaning process are:

1. Close all gates or plug valves in lines in and out of the absorber, then insert steel plates between flanges of all plug valves on side adjacent to absorber, thus providing double protection or shut off to men working inside the towers.
2. With a vent valve open to the air from the top of absorber, high pressure steam is turned into the base of the absorber and the tower steamed from 12 to 24 hours.
3. After shutting off the steam, water is circulated over the tower for 24 hours, the pump discharge being onto the top tray while the solution, water, b.s. and iron sludge flows out the base of the absorber into an open tank for settling out the sludge, the pump taking suction from this tank some 24 inches off the bottom of tank.
4. The absorber is steamed for six hours, after which time the manhole plates are removed and the tower ready to enter.
5. All heavy sludge is first scraped from the trays and all caps cleaned by wire brushing. After thorough cleaning in this manner the manholes are replaced, blind plates removed, and the column is ready to put back on the line.

By following this procedure and insisting on use of gas masks for any entrance into the absorbers for intermediate inspection, we have not had a man injured or overcome in four years of operation.

Inspection and Replacement

Inspection and replacement of weir plates in fractionating or rectifying columns has been another procedure in which a very similar process has been adhered to. The column, after being vented of pressure, is steamed for 4 to 8 hours before the manhole is removed and the interior of the tower inspected. The hydrogen sulphide in the tops of these columns is so concentrated as to cause asphyxiation in two or three minutes contact, hence extremely precautionary gassing of a workman at this point allows further danger from fallling. Platforms with guard rails and safety ladders are thus provided to increase safety while working at this point.

Repair of leaks in pipes, fittings, or in tanks in the make room or accumulator house, in pump pits and in underground batteries of stored gasoline, must be completed with gas masks. Although we have had no fatalities from this cause, we have had some men to become partially gassed and require treatment and several days' loss of time. Where possible, steaming of the room or building where such repair is to be made will eliminate any floating vapors or liquid present and reduce the hazard.

In repairing liquid or vapor leaks, especially to high pressure accumulator tanks, where the hydrogen sulphide content is concentrated, 10-15 by volume, extreme precaution must be followed to prevent blowing or spraying of gasolise or vapors in the eyes as temporary blindness may result. This minor injury may grow into serious complications if medical treatment is not given immediately.

Repair and cleaning of boilers and auxiliary equipment in the boiler house must be done with two men present, one on the boiler room floor and the other at the point of repair. The dangers of asphyxiation while working above the boilers, in the fire boxes, cleaning stacks and breaching cannot be overemphasized. Gas masks should be used when there is any question as to the possibility of danger from the presence of hydrogen sulphide or the products of combustion of this sour gas in the fire boxes of the boilers. With but a small leak in the breaching or casing of one boiler, the air next to the roof will be so fouled as to cause danger in a few minutes and a headache will develop after merely climbing to this zone for a single trip.

In replacement of rings and compressor valves in the gas compressors in the engine room, all gas lines must not only have master gates closed but blind plated. This extra precaution takes time but the effect of hydrogen sulphide gas is so gradual that the presence of the poisonous gas is not felt until one or more of the men keel over. Again all rod packing on these same gas compressors must be kept tight and all leaks stopped or the unit shut down until the repair can be made.

It is needless to say that every building around natural gas gasoline plants must be well ventilated, more so than most refinery buildings, as the product being handled is more volatile, usually has less odor, hence leaks are harder to detect and the presence of hydrogen sulphide increases the danger to the operator many fold. Continual exposure to hydrogen sulphide may so impair the sense of smell as to prevent the detection of the presence of this vapor until serious injury has resulted.

With these conditions of injury and danger of asphyxiation present at all times, each monthly combined operating and safety meeting has been used to further impress on every man the need of caution and the possible result of any carelessness. With the posting of appropriate safety posters on the plant bulletin boards, danger signs throughout the plant yard at strategic points, and the unceasing followup of our plant personnel, from the stillman to the superintendent, we are able to say to date that we have had no serious injuries from hydrogen sulphide and its kindred dangers. We have been fortunate indeed and we only trust we can continue to keep every man awake to our problem and our record clean.

Education of Personnel

Plant operators are made, not born, and before we can make an operator of a new man we must learn something about him and likewise give him some opportunity to learn something about the plant hookup. Even in transferring experienced operators from one plant to another, it is a good plan to give them other duties for a while in order for them to familiarize themselves with the plant hookup before assuming the responsibilities of an operator.

The very first thing every operator and every plant employe should be taught is an appreciation of the explosive and flammable mixtures of gas or gasoline vapors with air; i.e., a mixture of 5 gas and 95 air, or one of 2 gasoline vapors and 98 air, has a greater explosive power than do mixtures containing greater density of gas or vapors. This point too should not be overlooked when cautioning operators and women in the camp about the use of gasoline for household or cleaning purposes. In this connection it should be stressed that the danger is not over as soon as the gasoline container has been closed and placed outdoors.

Other things that should be immediately taught the new man are the flow of gas, oil, water and steam through the plant from the intake scrubbers to the residue lines or the finished product, and that under no circumstances should he experiment with the opening or closing of any valve in the yard without having definite knowledge as to what will happen either way on the line.

It is a good test of the operator's knowledge of master gates and fire equipment to assign specific problems and have him tag the various gates to be opened or closed with different colored markers as the case might be in the particular emergency to be dealt with. Not only is this a test of knowledge of the gates, but if properly conducted it becomes a check-up on whether or not the operator holds a level head in time of emergency. Such an examination should be given the new operator not later than two weeks after he starts to work and at intervals of not more than 60 days thereafter.

Operators whose duty it is to start engines should be well instructed in the fundamental precautions essential to safe practice; i.e.: See that the compressor is unloaded and the vent line open. Do not jack the engine over without disconnecting the circuit breaker clip. Be sure that the jack is clear of the flywheel. Do not turn the gas throttle on until after you have opened the air-starter valve, then open the throttle valve slowly until the engine starts. The air line release cock must be left open at all times whether the engine is running or not, except when starting the engine. Be sure to close the gate on the air line after starting the engine.

Fewer Completions but More Oil Wells in November Than in Previous Month

The wells completed in November in the states east of California numbered 56 fewer than in October, but there were 18 more oil wells completed than in the previous month. East Texas continues to be by far the busiest single field in the country and its completions and the number of wells drilling in that field alone exceeds the number of active operations in any state outside of Texas and Oklahoma. There was little change in the number of rigs and wells drilling, the total of 3,080 for all fields being 23 more than at the end of the previous month. Following is the summary:

SUMMARY OF ALL FIELDS
WELLS COMPLETED

	Comp.	Prod.	Dry	Gas
Eastern	137	569	13	21
Central Ohio	32	67	4	20
Lima	14	432	2	5
Indiana	20	15	6	11
Michigan	9	2,105	1	0
Kentucky	31	650	12	0
Illinois	1	7	0	0
Kansas	54	10,906	21	2
Oklahoma	111	38,932	24	12
North Central Texas	87	884	49	4
E. Cen. and E. Tex.	428	24,560	12	0
West Texas	16	5,083	4	0
Texas Panhandle	13	2,470	2	4
Gulf Coast Texas	76	54,341	24	1
Southwest Texas	84	20,049	46	4
North Louisiana	29	4,336	16	3
Gulf Coast La.	12	5,697	5	0
Arkansas	8	0	8	0
Mississippi	3	0	1	1
E. Tex. gas field	1	0	1	0
Montana	10	553	4	0
Wyoming	8	268	5	1
New Mexico	7	36,545	0	1
Total Nov.	1,190	267,619	275	90
Total Oct.	1,246	191,978	336	97
Difference	56	15,641	61	7

RIGS AND WELLS DRILLING

	Rigs	Drlg.	Ttl.
Eastern	44	141	185
Central Ohio	19	86	105
Lima	2	21	23
Indiana	3	77	80
Michigan	58	69	127
Kentucky	6	48	54
Illinois	1	12	13
Kansas	42	103	145
Oklahoma	121	344	465
North Central Texas	56	157	213
E. Cen. and E. Texas	178	281	459
West Texas	14	113	126
Texas Panhandle	19	63	82
Gulf Coast Texas	14	162	176
Southwest Texas	37	152	189
North Louisiana	58	125	183
Gulf Coast Louisiana	4	27	31
Arkansas	10	28	38
Mississippi	3	15	18
Alabama	0	3	3
East Texas gas field	3	27	30
Montana	10	57	67
Utah	0	17	17
Wyoming	11	83	94
Colorado	10	74	84
New Mexico	14	59	73
Total Nov.	737	2,343	3,080
Total Oct.	736	2,271	3,057
Difference	49	72	23

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The Oil and Gas Journal

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

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Fair to All

The official use of bottom hole pressure readings as a factor in the regulation of oil production in East Texas is simply another step in the progress of petroleum engineering and of the industry's application of science to oil field practice.

The old-fashioned operator may shake his head and explosively express his skepticism just as he did when the "rock hounds" proposed to tell him where to drill, or when the gas-oil ratio was forced upon his attention. Each advance in scientific knowledge makes a deeper draft upon the lay credulity until it proves itself.

The value of bottom hole pressure readings had been demonstrated practically when proposed in The Oil and Gas Journal last summer as a solution of the proration problem in East Texas.

At that time it was suggested that the Railroad Commission appoint an engineering committee to study the production problem on that basis.

Nine months' experience in the field under the most widely varying conditions, ranging from wide open to shut in, and from an allowable of 225 barrels daily to 37 barrels daily, had provided exceptional opportunity to test the theory.

Changing physical conditions had been closely watched and the effects studied, both as to individual wells and as to the field. The results noted confirmed the theory and established its dependability as a yardstick which might be used in avoiding physical waste and in increasing ultimate recovery.

It has now been found that the per well basis of fixing allowable production criticized by the three-judge Federal court was not so much injurious to the field as it was inequitable between operators. As a measure of conservation it served its purpose but fell short of just allotment.

Certain areas were admittedly capable of producing more oil but additional information was required before they could be separated without causing excess waste and discrimination.

Bottom hole pressure readings provided the information needed and indicated the method by which this inequality could be corrected.

The decline in production of a well is directly in proportion to its bottom hole pressure. The degree of the bottom hole pressure gradient is also directly proportional to the ability of all of the wells on a cross section to produce, and to maintain, build up or to decrease the gradient.

Bottom hole pressure readings show that various areas in the field are not capable of producing the present allowable without harmful effect, causing free gas areas and uneven water encroachment. By the use of this method the production of these areas can be reduced to a more even and ratable pressure decline ratio.

Other areas, producing above the allowable and still able to maintain the average bottom hole pressure decline, can be permitted to increase production to that point.

In some areas recovery has been in excess of the volume of the oil that could have been in place there before the sand was tapped and many more thousands of barrels can be produced. This advantage can be transferred to areas where drilling has not been so intensive and the rate of withdrawal was more evenly in proportion to the original oil in place.

The bottom hole pressure and acreage proration method offers for the first time an approximation to the ideal that each owner is entitled to the oil under his tract and to no more.

It is not a cure-all and it cannot be perfect. More information is needed and will doubtless be obtained in the practical application of the method but it has so many points of superiority over any other plan that has been tried or suggested that it has at this time no rival.

Every care has been taken to make its application in East Texas as thorough and as impartial as possible. Experience has proved that it will work with a very small percentage of error.

It has been designed to assure protection of every operator's individual right to the oil he should produce while conserving the field and assuring the greatest ultimate recovery without waste.

It will, of course, be opposed by those to whom oil finding and production is still "a game" to be decided by luck or cunning. But that was before we were all swamped by overproduction. Curtailment has been forced upon us by sheer overabundance and in trying to get out from under there has been time to think things through and to see past errors that must be avoided in future.

The pioneer oil man may have been like the wild game hunter who went out with a shotgun but theories that worked then will not hold when the hunter goes out with machine guns, poison gas and aerial bombs.

That is about the difference between the spring pole driller and the petroleum engineer of today.

The industry has grown too great, has too much at stake, to be based on a sporting proposition. In self-protection it must place itself upon an equitable foundation. It is believed that the principle now adopted for proration in East Texas will come closer to that than anything yet presented.

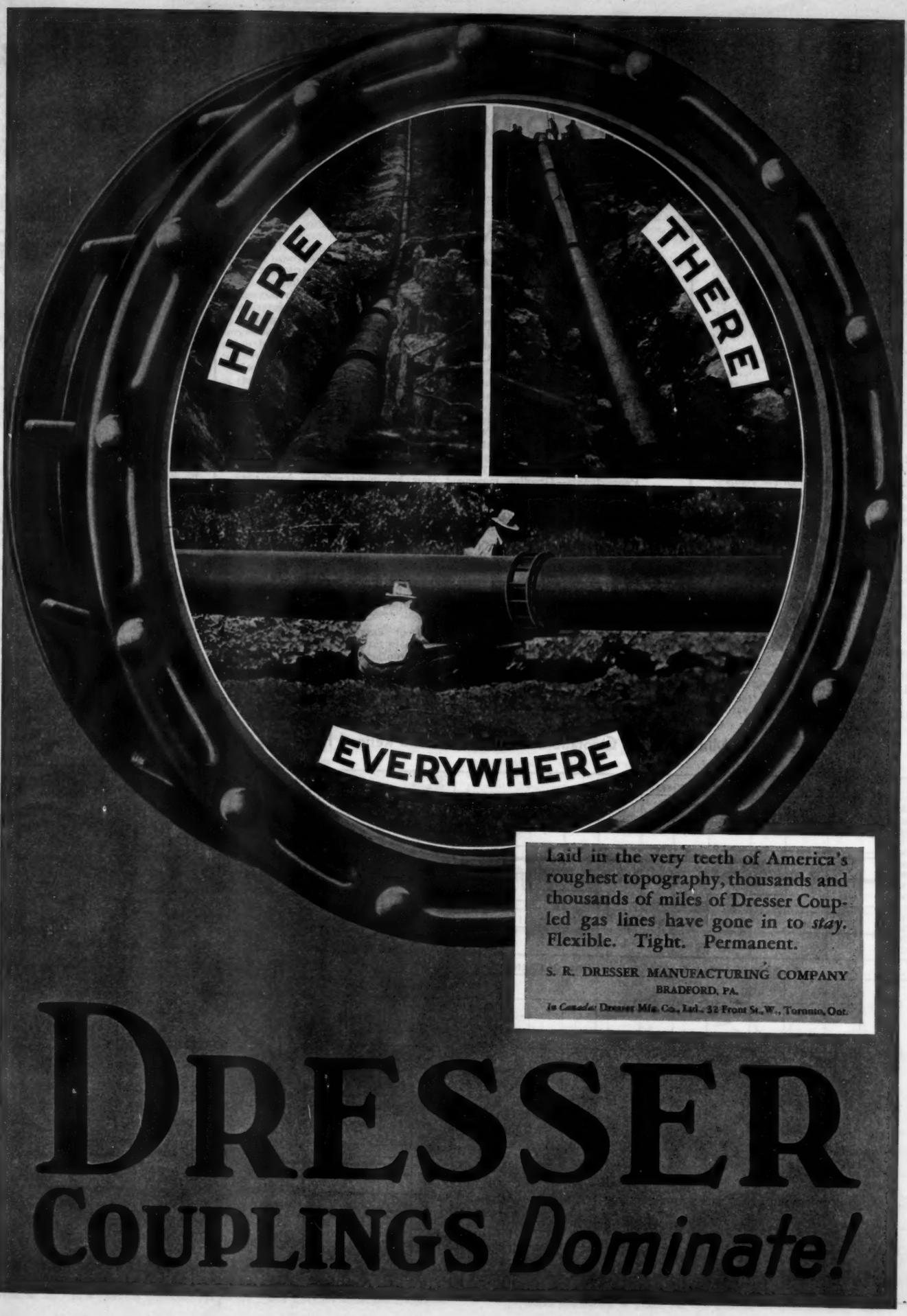
If successful in that area there is expectation that it will also be applied to other Texas fields and presumably made general until something better is developed.

It will at least remove the chief complaint for discrimination under other methods by allowing for natural advantage in location and other physical inequalities, yet protecting those less advantageously situated.

It will at the same time provide a scientific check against injury to the field and allow the fullest return, both at the moment and eventually, because it will prevent overproduction destroying values now, while conserving recoverable oil for steady return in the future.

Incidentally, though not least important, it will furnish information of monetary value to operators by guiding them in the installation of equipment through dependable estimates of the flowing life of a lease and the total oil recoverable.

Ultimate stabilization of production is inevitable. Economic factors and engineering knowledge are compelling it, no matter what the individual unit in the industry may think about it. He might as well recognize and accept the facts, especially since the condition of the industry will measure his own. Only when the industry prospers is there opportunity for everyone in it and for everybody dependent upon its welfare.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Natural Gasolines Advance, With Motor Fuels Lower in Oklahoma Market; Fuels Easier

By C. O. WILLSON

The somewhat incongruous situation of strong natural gasoline and weak refinery gasoline markets resulted in a narrowing of price differentials between these two classes of products in Oklahoma (Group 3) and the remainder of the Mid-Continent. The principal grade of natural gasoline — the 26-70 — advanced one-fourth cent in Oklahoma during the past week to a low of 3 cents and for the same period the low octane U. S. Motor gasoline dropped one-fourth cent to a low of 3⅛ cents. The 18-55 grade of natural gasoline and the lower vapor pressure grades were bringing from one-fourth to 1 cent more than the low-grade U. S. Motor grade.

There was an easier tone to the rest of the Oklahoma market. For the first time in several weeks some sellers were inclined to give slight concessions in the sale of furnace oil material and kerosene. This was brought about by some slow-up in demand and also through the competition of inland Texas refiners. The demand for all grades of lubricants is slow with wax prices firm.

Changing Gasoline Situation

The present price relationship of natural gasolines and refinery gasolines is another illustration of the ever-changing situation in markets on finished petroleum products. Natural gasolines have been at a disadvantage in relation to refinery motor fuels over the greater part of the past two years. Previously natural gasolines over a part of the year, at least, had commanded premium prices over the principal domestic grades. The spread of cracking at refineries with a large production of light end fractions comparable in specifications to natural gasolines materially restricted the outlets of the natural gasoline manufacturers, bringing an unprofitable price situation to that branch of the industry for many months. As shown below in the chart on natural gasoline and U. S. Motor prices early last summer when the low octane refinery grade was bringing 5 cents per gallon the 26-70 grade of natural gasoline was selling on the spot market under 2 cents.

Recent developments, however, have been more favorable to the natural gasoline manufacturers. The low prices secured new outlets for natural gasoline, particularly among the jobbing trade. This direct method of handling sales has been aided by the manufacturers who have changed their methods of operation to produce finished products which can be consumed with very little or no blending with refinery gasolines. The production of these more stabilized grades has not only tended to widen markets but it has also reduced the supply. For the entire country production of natural gasolines is now down to the 1926 level and only about 60 per cent of the 1929 peak. Production in the Mid-Continent and the entire United States this year has been showing a decline in excess of 20 per cent when compared with last year. With no large supplies in sight from new fields it now appears that this trend toward smaller supplies in natural gasoline will continue indefinitely.

As explained in these columns last week, the trend in retail distribution also has aided the natural gasoline manufacturers. The emphasis placed on more volatile and higher gravity motor fuels by many refiners and jobbers has met with favor from the consuming trade and in effect in certain sections has established new standards of motor fuel quality. A large part of the buying of recent weeks has come from refiners and jobbers who are meeting competition by offering more volatile gasolines and they have been forced to buy the various grades of natural gasoline to supplement the supplies available from their own cracking operations.

In this connection it should be pointed out that the practice of blending natural gasolines with refinery gasolines at bulk stations rather than refineries and special blending plants is an aid to the natural gasoline market. The usual practice of the past has been to blend the products at refineries or blending plants and

Refined Market Barometer

Price weakness in refinery gasolines centered in the Mid-Continent area during the past week where an unsettled crude situation is contributing to a trend toward lower quotations. Motor fuel markets in other refining centers were unchanged in most cases. Natural gasolines due to steady buying were advancing in the Mid-Continent and firm in California. At interior points there was some slackening in the recent tight market for all grades of fuels, particularly those used as furnace oils. Quotations on these products at coastal points continued firm. Continued softness was reported in cylinder stocks along the East Coast. Wax prices unchanged.

Mid-Continent—Refinery gasoline prices continue decline. Natural gasolines strong and prices higher. High gravity fuel oils, furnace oils and kerosene easier and prices slightly lower on some grades. Lubricating oils slow. Wax firm.

East Coast—Gasoline market holding. Heavy demand for kerosene and furnace oil and prices steady. Fair demand for fuel oil and gas oil. Cylinder stock prices lower. Improvement in export movement.

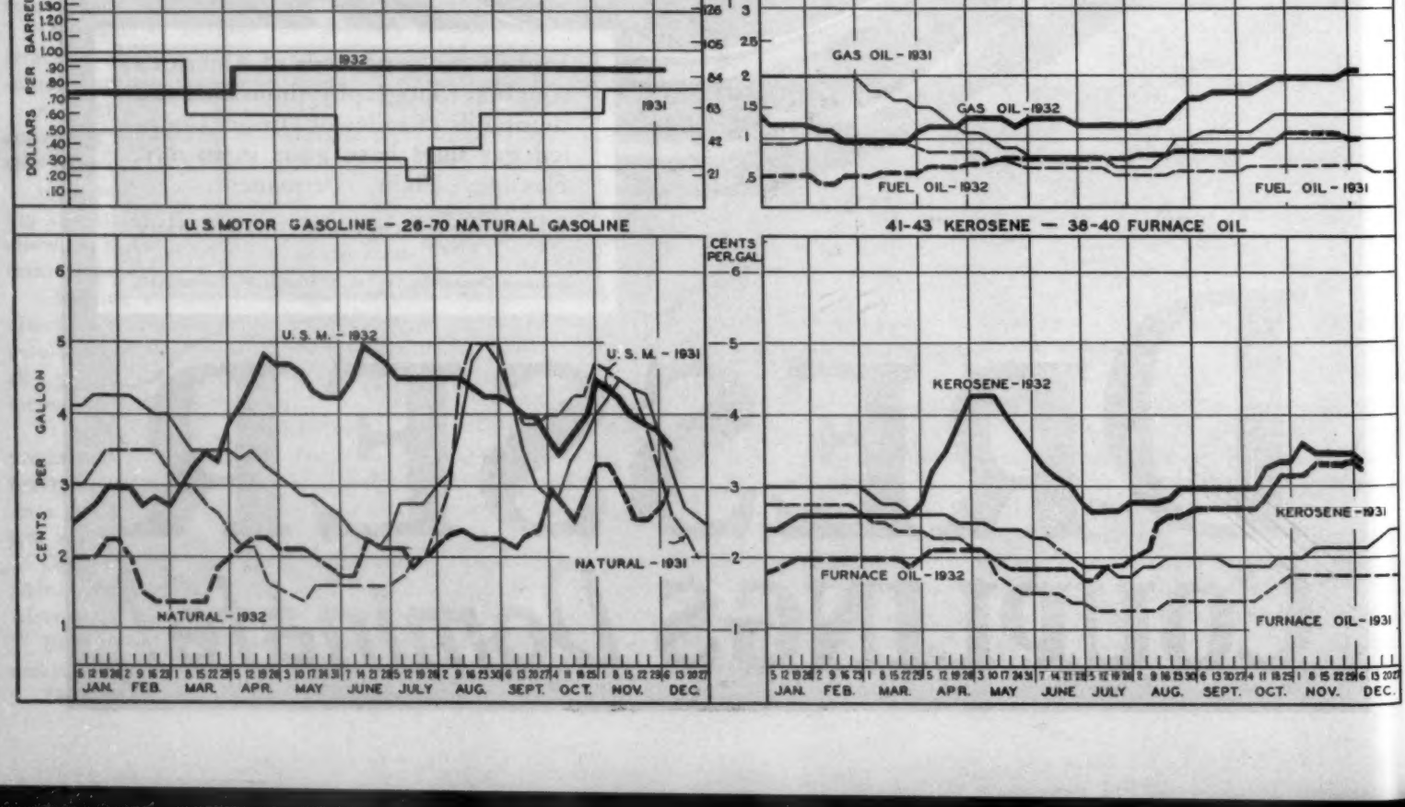
Chicago—Gasoline prices lower. Fuel market holding despite lessened demand due to warm weather. Special naphtha market unsettled.

Pennsylvania—Gasoline movement slow but most refiners have not changed their quotations. Kerosene in good demand. Routine movement of cylinder stocks and neutral oils.

California—Seasonal slackening in gasoline demand with prices unchanged. Fair demand for fuels and distillates.

Gulf Coast—Low octane market weak. Kerosene strong. Fuels steady. Slow demand for pale and red neutrals.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
CENTS PER BBL. GAL.
1932
1931
18 GR. FUEL OIL — U.G.I. GAS OIL
GAS OIL - 1931
GAS OIL - 1932
FUEL OIL - 1932
FUEL OIL - 1931
U.S. MOTOR GASOLINE — 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1932
U.S.M. - 1931
NATURAL - 1931
NATURAL - 1932
41-43 KEROSENE — 38-40 FURNACE OIL
CENTS PER GAL.
KEROSENE - 1932
KEROSENE - 1931
FURNACE OIL - 1932
FURNACE OIL - 1931
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

then ship the finished products to the consuming point. This method works a hardship on the natural gasoline manufacturer because he has been forced to absorb a double freight charge while under the new plan he is placed on an equal basis with the refiner as regards transportation costs.

Aid Refinery Market

While refiners, who are still by far the largest buyers of natural gasoline, will not look with favor on premium prices in their purchases, they are not as a group opposed to a return to a reasonable price relationship between the natural gasoline plant and refinery products. Over the past year, one of the most bearish factors in the motor fuel market of the Middle West and Southwest has been the availability of low-priced products which were either 100 per cent stabilized natural gasoline or a heavy blend of natural with refinery naphthas. Several times it appeared that refinery operators would be able to establish their market on a profitable basis only to find themselves forced to reduce quotations to meet the competition of the manufacturers who were willing to give whatever price concessions necessary to keep shipments moving from their plants.

Some sellers of natural gasoline are endeavoring to work out an equitable relationship between their products and those of refiners through long-time contracts with buyers based on the spot market for a representative grade of refinery gasoline. The terms of these contracts vary with the grade of natural gasoline. Buyers are giving more consideration to these contracts than they did when wide spreads were effective in the open market quotations for these products.

Refinery Gasolines

There has been no check in the trend toward lower prices for refinery gasolines. The weakness centers in the low octane U. S. Motor but quotations on all grades are lower. Low priced material was made available from additional sources during the past week.

It is apparent that the so-called "local refiners" are increasing in market importance. The Oil and Gas Journal's monthly check on Mid-Continent refinery operations which is published elsewhere in this issue, shows that there are now more than 25 plants operating or under construction in the East Texas Field. Elsewhere there are constant reports of small plants being built. Many of these plants only have a capacity of 100 bbls. or less and do not operate consistently. At the same time there are larger plants under construction including two in Kansas and one plant about to resume operations after a shut down of several years.

In general the building of these plants reflects an unhealthy crude oil situation. Some of the plants have been built by independent producing interests who have not been able to dispose of part or all of their production. By building the plants they create additional outlets. In some cases they are not interested in the efforts being made to improve refinery prices so that plants can be operated profitably based on present posted prices for crude oil. Their only concern is to get rid of additional crude oil regardless of the net back per barrel after the refinery operation is paid for.

Another class of these operators are able to buy crude oil supplies from 50 to 75 per cent of the posted prices and they also are primarily concerned with volume rather than prices being in position, due to their cheap crude oil supplies, to undersell the larger and older refining organizations.

Finally there is a small group of operators whose entire operations are said to be based on bootlegging practices. They buy illegally produced crude oil and in their sales of gasoline evade a part or all of the state and Federal gasoline taxes. The volume of business of this class of operators is not large but they have wrecked tank car and retail markets wherever they have become a factor.

It is reported that contracts have been entered into by independent producers and refiners in which the price of crude oil is based on the refinery revenue. At present these contracts mean that the producers are not getting the posted prices for their crude oil production. Similar type contracts have been used on a limited scale in California for several years.

The net result of all these operations based on lower priced crude is to weaken markets and threaten the continuance of orderly operations on the part of refiners and producers who constitute the great bulk of the industry. Efforts are being made to correct these conditions but conditions are getting worse instead of better if reports in the trade are to be credited.

Gasoline and Naphtha

East Texas refiners the first of the week were offering low octane U. S. Motor for resale in tank car lots at 3 cents f.o.b. East Texas and 3¼ cents basis Group 3. These same refiners were getting as high as 3⅛ and 3¼ cents for furnace oil and kerosene cuts although these products also are weaker.

In Oklahoma, resale U. S. Motor was available as low as 3¼ with 3½ cents the price generally quoted to the trade. The 400, 390, 375 and 350 grades were not being forced on the market but prices on these products were also slightly lower than last week.

Some price cutting is also reported in the higher octane gasolines. Most of the cheaper material is third grade but some of the U. S. Motor grade is being offered with a guaranteed octane rating of 60 or better. This is being sold at one-eighth to one-fourth cent above the low octane grade.

Blending naphthas for which there is steady demand are one-eighth cent lower than last week.

Furnace Oils and Kerosenes

With the exception of the 32-36 zero, low flash grade which continues scarce in Oklahoma at a low of 3⅛ cents, furnace oil and kerosene prices are one-eighth cent lower. This weakness is explained as being due to the warm weather in the middle states which has slowed up actual consumption of furnace oil material. Offerings from East Texas refiners and several other operators have increased in volume.

Prime white distillates are available in Oklahoma as low as 3¼ cents and 41-43 water white kerosene, 3⅜ cents.

Fuel Oil and Gas Oil

Fuel oils are easier, although in Oklahoma prices are being maintained without any general reductions. U.G.I. gas oil has returned to a low of 2 cents and was offered by at least three refiners in Oklahoma at that price the first of the week. Two sales at 1⅞ cents were reported.

No changes were reported in lubricating oils and wax.

Both Imports and Exports Continue to Decline Government Report Shows

By CHARLES E. KERN
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Dec. 3.—Imports of petroleum and products in value for the month of October totaled $2,554,325 compared with $7,007,944 in October, 1931.

Imports of crude petroleum imported in October dutiable totaled 2,454,662 bbls. valued at $1,643,938 compared with 4,105,734 bbls. valued at $2,817,765 not dutiable in October, 1931, according to the monthly summary of exports and imports by the Bureau of Foreign and Domestic Commerce.

All advanced and refined oils imported in October totaled 1,386,123 bbls. valued at $893,235 compared with 3,931,039 bbls. valued at $4,101,057 in October, 1931, the former dutiable and the latter not dutiable, these totals being composed of the following:

Fuel oil including topped petroleum in October dutiable 1,161,549 bbls. valued at $583,336 compared with 2,738,060 bbls. valued at $1,663,351 not dutiable in October, 1931.

Unfinished distillates 1,980 bbls. valued at $23,181 dutiable in October, 1932, compared with 9,832 bbls. valued at $54,912 not dutiable in October, 1931.

Lubricating oil 102 bbls. valued at $1,619 dutiable in October, 1932, compared with 1,277 bbls. valued at $25,954 not dutiable in October, 1931.

Finished light products 161,023 bbls. valued at $239,919 dutiable in October compared with 1,181,394 bbls. valued at $2,365,173 not dutiable in October, 1931, this being one of the most severe declines in the entire list of imports.

Illuminating oil (kerosene) 61,469 bbls. valued at $45,150 not dutiable in October, 1932, compared with only 476 bbls. valued at $1,667 not dutiable in October, 1931, showing a reversal in the trend of kerosene shipments.

Paraffin and paraffin wax imported in October, 1932, totaled 529,693 pounds valued at $17,152 dutiable compared with 2,683,828 pounds valued at $89,122 not dutiable in October, 1931.

Exports of petroleum and products did not show as high percentage in decline in value as was recorded in the value of imports, the value in October, 1932, being $16,052,439 compared with $21,121,156 in October, 1931. Exports of crude petroleum totaled 2,540,650 bbls. valued at $2,683,672 in October, 1932, compared with 2,389,363 bbls. valued at $1,923,388 in the previous October.

Natural gasoline exported in October totaled 21,687 bbls. were valued at $30,867 with no exports of record in the previous October.

Refined oils exported in October totaled 4,885,549 bbls valued at $12,096,891 compared with 7,576,109 bbls. valued at $17,758,291 in previous October.

American Petroleum Institute Weekly Refinery Statistics

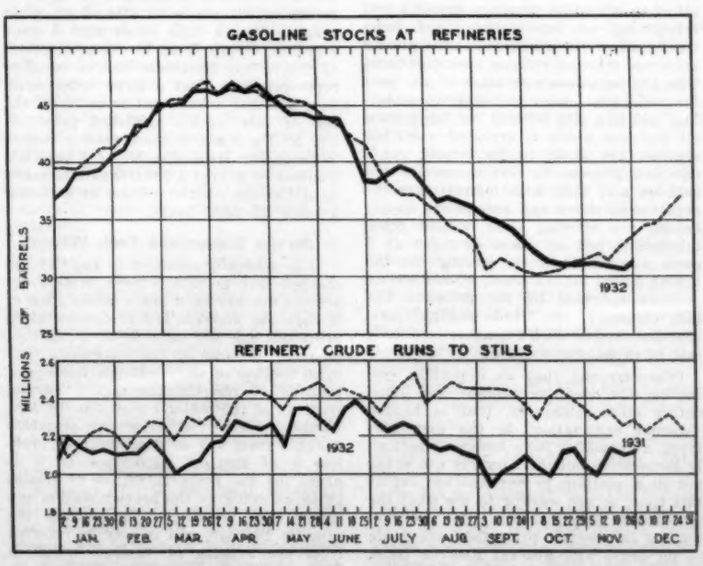
Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Gasoline stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

Week Ending December 3, 1932, Compared to Week Ago

	Week ending December 3				Week ending November 26			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	99.1	465,000	3,749,000	9,237,000	99.1	448,000	3,553,000	9,277,000
Appalachian	95.0	79,000	1,081,000	758,000	95.0	89,000	1,037,000	759,000
Ind., Ill., Ky.	97.5	292,000	3,019,000	3,757,000	97.5	319,000	2,942,000	3,863,000
Okla., Kans., Mo.	84.9	181,000	3,093,000	2,790,000	85.2	195,000	3,083,000	2,821,000
Tex. Gulf	97.7	359,000	5,585,000	8,880,000	97.7	390,000	5,318,000	9,156,000
La. Gulf	97.3	72,000	1,148,000	3,128,000	97.3	91,000	1,163,000	3,319,000
Inland Texas	56.4	77,000	1,088,000	2,155,000	59.2	91,000	1,146,000	2,134,000
N. La. and Ark.	88.5	44,000	171,000	496,000	88.5	43,000	156,000	506,000
Rocky Mtn.	90.8	27,000	1,071,000	441,000	90.8	32,000	1,076,000	443,000
California	94.6	410,000	12,326,000	100,344,000	94.6	428,000	12,140,000	100,248,000
Total U. S.	91.6	2,006,000	32,331,000	131,986,000	91.9	2,126,000	31,619,000	132,526,000

Week Ending December 3, 1932, Compared to Year Ago

	Week ending December 3				Week Ending December 5, 1931			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	99.1	465,000	3,749,000	9,237,000	100.0	425,600	4,221,000	9,733,000
Appalachian	95.0	79,000	1,081,000	758,000	91.8	100,100	1,166,000	1,648,000
Ind., Ill., Ky.	97.5	292,000	3,019,000	3,757,000	98.9	292,300	3,534,000	5,775,000
Okla., Kans., Mo.	84.9	181,000	3,093,000	2,790,000	89.6	224,900	3,023,000	4,606,000
Tex. Gulf	97.7	359,000	5,585,000	8,880,000	99.8	431,400	5,272,000	8,654,000
La. Gulf	97.3	72,000	1,148,000	3,128,000	100.0	114,100	820,000	3,151,000
Inland Texas	56.4	77,000	1,088,000	2,155,000	....	102,000	1,650,000	3,081,000
N. La. and Ark.	88.5	44,000	171,000	496,000	....	44,500	152,000	786,000
Rocky Mtn.	90.8	27,000	1,071,000	441,000	89.4	37,100	1,387,000	797,000
California	94.6	410,000	12,326,000	100,344,000	97.1	440,400	13,031,000	96,943,000
Total U. S.	91.6	2,006,000	32,331,000	131,986,000	95.2	2,212,400	34,256,000	135,164,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

Prices on Furnace Oils and Residual Fuel Oils Firm in Chicago Territory Despite Warm Weather

By ROBERT C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Dec. 5.—Although the weather has been unfavorable from the standpoint of the heating oil distributor, practically all of the distillates and residual fuel oils available on the open market are being held to the top prices reached several weeks ago in spite of reports that Oklahoma, Texas and Arkansas refiners are building up a considerable supply of these materials and are offering at a quarter of a cent below the ruling prices. The refiners who are gauging a firm position for the products ranging from kerosenes to the below 18° gravity residual fuels say, however, that these markets have reached a point where further advances are highly improbable. It is pointed out that gasoline can be bought at less than the price of kerosene distillates, the latter materials being held without any degree of anxiety by refiners who are expecting heating oil marketers to turn to these distillates for blending purposes as soon as cold weather sets in in earnest. With consumption somewhat below the anticipated level for this time of the year due to mild weather, and influenced by the wish to have their inventories as low as is feasible at the close of the year, jobbers are reluctant about taking an active buying position in the heating oil markets and the result is an apparent discrepancy between the strong price position and the dull trading in the distillate and fuel oil markets.

GASOLINE SPECIFICATIONS OF CUT PRICE STATION OPERATORS IN CHICAGO

Initial	158°F.	221°F.	284°F.	302°F.	356°F.	374°F.	392°F.	Max.	Rec.	V.P.	O.N.	Price cents
92	17.0	39 0	64 0	73.0	91.0	94.0	97.0	402	97.0	8.9	55	12 2
104	16.0	40.0	66.0	72.0	90.0	95.0	....	398	97 0	6 3	62	13 5
102	17.5	40 0	65.0	72.5	89.5	93.5	97.0	409	97 5	8 0	57	15 0
84	25.0	45.0	61.0	67.0	85.0	90.5	94.5	430	95 0	10 9	71	14 0
94	30.5	58.5	77.0	81.0	91.0	94 0	96 0	416	97 0	8 7	56	14 0
103	12.0	35.0	62 0	67.0	86.0	90.5	94.0	421	97 0	5 6	50	12.0
102	18.5	43 5	64 5	71.5	88.0	92.5	96.5	408	97 5	7 2	56	12 5
100	19.0	44.0	65.0	71.0	87.0	92.5	95.5	411	98 0	7 1	58	14 0
86	23.0	39.5	57.0	62 0	79.5	87 0	91.0	434	98 0	10 8	70	14 0
92	18.0	37.5	59.0	65.0	82.0	87.0	92.0	434	97.0	8 4	46	12.5
94	21.0	42.0	64 5	71.0	88.5	94.0	97.5	400	97.0	8 3	63	13.5
96	17.5	37.5	61.5	69.5	88.5	93.5	97 0	410	....	6 8	63	14 0
92	24.0	40.5	58.0	64.5	82.5	88.5	93.0	430	....	10 0	72	14 5
97	21.0	41.0	61.0	66.5	84.5	89.0	93.5	422	96 0	7 8	55	13 0
102	13.5	35.0	62.0	68.0	87.0	91.0	95 0	420	97 0	5 6	53	13.0
93	20.0	41.0	65.5	71.5	89.0	94.0	98.0	399	96.0	8 1	68	12 0
103	12.0	40 0	72.0	78.0	93 0	96 0	98 5	422	....	7 0	35	10 0
92	21.5	44.0	62.0	69.0	88.0	92.0	96.0	422	....	9 9	66	13 5
96	23.5	49.5	70 5	76.5	85.5	93 5	98.5	412	97 5	7 8	58	15.0
89	20.5	44 5	72.5	78.5	93.5	96.0	....	388	96.5	9 6	54	12 5
98	16.5	39 5	53.5	73.5	90.5	93.5	97.5	400	97.5	7 1	62	13.5
96	22.0	44 0	64.0	69.0	83.5	90.5	94.5	424	....	8 3	54	12 5
92	22 0	43 5	67 5	72.0	84.0	91.5	95.0	420	....	9 8	62	14 4
102	17.0	39.5	64 5	71.5	89.5	93 5	95.5	412	96 5	8 2	58	14 4
98	14 5	36.5	65.5	72 5	88 5	92 5	98.0	412	96 5	8 4	54	12.0
93	24.0	53.0	78.0	82.0	92.0	95.5	....	418	....	8.8	58	14 0
93	19 0	42 0	60 0	74.0	89.0	93.5	97.5	418	....	7 8	52	12 5
94	15.0	33.0	54.5	62.0	82.0	89.0	95.0	414	97.0	7.8	60	14.0

Gasoline Situation

The gasoline tank car spot markets match in sluggishness those of any period in the past two years. Contract business is reported holding up fairly well, but here, too, there are strong indications that automobile owners are letting their cars remain idle a larger part of the time. Certain large marketers have started a coupon book selling drive in an effort to stimulate increased gasoline and lubricating oil consumption, and practically all of the companies have greatly increased their advertising appropriations. The Indian summer weather of the past few weeks has been favorable to motoring, and has also delayed the lubricating oil business which is expected when the changes are made to the winter grade oils and greases. In this connection the refiners may note with interest that the department stores and automobile supply houses are offering their winter grade lubricating oils at prices as much as 5 cents a quart under the postings for the lowest priced oil, 15 cents, at the service stations operated by the refiners. The oils, obviously, are "trade pulling" merchandise, and as such are advertised daily and in prominent position.

Observers say that an important reason for the declining gasoline and lubricating oil consumption, that is beyond seasonal expectation, is the fact that many automobiles have become practically inoperative but their owners are either not in a position to buy another car at this time, or are waiting to see what the automobile manufacturers who are contending in the low price field are going to do next. The Federal Reserve Bank of Chicago reports a decline of 17.8 per cent in sales of new automobiles in October as compared with September, while the value of the cars sold declined 10.2 per cent. Compared with the same month in 1931, the sales in October 1932 were 43 per cent less and the value of the cars sold was 45.4 per cent less. Used car sales in October of 1932 were 4.7 per cent less than in the preceding month, and were 15.8 per cent less than for the same month last year. However, new and old automobile stocks were 20.2 per cent less in October of this year than in the preceding month, and were 55.8 per cent less than in October of 1931. A report for the entire United States shows that new passenger car registrations during October totaled 64,195 cars, compared with 81,893 cars in September and 102,659 cars in October of 1931. For the first 10 months new car registrations totaled 1,006,358 while registrations for the same period of 1931 were 1,754,748, indicating a decrease of 42.6 per cent. Commercial car registrations in October, 1932, were 38.7 per cent less than in 1931.

Gasoline Movement Slow

Current movement of gasoline on the tank car spot markets is comparatively negligible, and most refiners are showing an unusual lack of interest in the materials which are being offered at prices ranging from a little better than 3 cents a gallon, Group 3, up to the prices most of the refiner-marketers like to consider representative. That a large order could have knocked a half cent or more off the low of last week's published prices of 3⅝ to 3¾ cents, is more than a rumor. Witness the Benzoline Motor Fuel Co.'s business of around 1,000,000 gallons taken by a Chicago district refiner at a Group 3 price of 3.135 cents.

Service Station and Tank Wagon

It is generally admitted in the Chicago district that private drive-in station operators are having a much better time of it than the jobbers. The trackage station operators are not only doing a thriving business, in spite of the complaints they raise because of the continued subnormal position of the Chicago service station postings of the major companies. In Milwaukee, where the price cut situation changes from day to day, the rent problem is of greatest importance as it is usual for the property owner to realize twice as much as the service station operator. The situation is practically the same in Chicago, and it may be inferred from the reports of various operators that conditions are little different in other large consuming points in the territory. One Chicago operator says he buys his gasoline at a price of 3.25 cents, Group 3. The freight is 2.44 cents and the tax is 4 cents, so the laid-in cost at his trackage station is 9.69 cents while his retail selling price is 12.5 cents. The station does a business of 20,000 gallons a month, so that after paying rent of $250 a month, salaries of $150 a month, the net is $162 before fees and taxes.

At this time the service station operators who have been using naphtha-natural gasoline blends are a bit confused because naphthas are much less freely offered than gasolines, and at higher prices, while natural gasolines have moved up nearly a full cent since their recent switch over to the blended motor fuel. It is reported that leaders in the natural gasoline field are offering to buy 26-70 at 3 cents, and Chicago distributors have been advised by their sources to "lay low" on natural quotations until the situation clarifies.

For the benefit of refiners who are interested in the characteristics of gasolines being sold at the cut price stations in Chicago the accompanying table shows the results of tests made on the competitive price motor fuels sold at the service stations of 19 Chicago cut price operators. The prices are also shown.

Initials of the gasolines range from 84 to 108° F., while the per cent distilled over at 284° F., ranges from 54.5 to 78 per cent. The 392° F. percentages range from 91 to 100 per cent. The endpoints range from 388 to 434° F. Recoveries range from 95 to 98 per cent. The octane ratings vary from 35 octane number on a gasoline sold at 10 cents at the service station to 70 octane number on a gasoline priced at 14 cents. One 68 octane gasoline is selling at 12 cents, including taxes. It is interesting to note the comparatively low vapor pressures of these gasolines, especially in view of other indications pointing to a free use of good octane natural gasoline.

The regular gasoline of a representative major company shows the following characteristics: Initial, 90° F.; 158° F., per cent point, 20.5; 221° F. per cent point, 40; 284° F., per cent point, 67.5; endpoint, 398° F., recovery, 96 per cent; vapor pressure, 9.6 pounds, octane number, 65, price, 15 cents. The characteristics of third grade gasoline of this company are: Initial, 87° F.; 158° F. per cent point, 16.5; 221° F. per cent point, 32; 284° F. per cent point, 53; 392° F. per cent point, 96.5; endpoint, 423° F.; recovery, 97 per cent; vapor pressure, 9.5 pounds; octane number, 51; price, 13.5 cents.

Service Station Situation

The service station situation outside of Michigan appears little changed. At three principal points in Michigan the prices were advanced as follows: Detroit, advanced 1 cent in the tank wagon and service station prices to 13.5 cents on the regular grade and 13.1 cents on the third grade; Grand Rapids, service station on the regular grade advanced 1 cent to 17.5 cents, and on the third grade to 15.5 cents; Saginaw, tank wagon and service station postings advanced 1 cent to 17.6 cents on the regular grade, and to 15.6 cents on the third grade.

Gasoline Tank Car Prices

Monday's gasoline tank car prices reflected the freer offerings of U. S. Motor and 400 endpoint materials. Some of the low price material sold at the lower prices is rated at 57-60 octane number. These two grades were a quarter of a cent lower at 3⅜ to 3⅝ cents for the U. S. Motor, and 3⅝ to 3¾ cents for the 400 endpoint gasoline. The U. S. Motor offered is 60-62 gravity and has been "pepped up" with natural gasoline.

Special Naphthas

Most producers report that the special naphtha tank car markets are in much better shape than at this time last year, while the tank wagon situation is considerably worse. At first sight this appears to be contradictory, but examination will show that any discrepancy is accounted for by the difference in quality required from the two sources. While the special naphtha tank car markets appear to be fairly well stabilized throughout the territory, excepting the rubber solvent business in Akron district, the naphtha tank wagon markets are practically demoralized, especially in the Stoddard solvent and light cleaners' naphthas. Major sellers have been forced to slash their Stoddard tank wagon prices at 80 points in the territory to meet competition. There are 30 points in the territory where a similar condition exists with the light cleaners' naphtha. The position of the V.M.&P. naphtha and petroleum spirits tank wagon markets in the territory is indicated by the following prices found in five principal points: Chicago, V.M.&P. naphtha, 12.7 cents; spirits, 10.7 cents; Minneapolis, V.M&P. naphtha 18.3 cents, spirits 16.8 cents; St. Louis, V.M.&P. naphtha 13.2 cents, spirits 11.7 cents; Kansas City, V.M.&P. naphtha 12.5 cents, spirits 11 cents (minus taxes); Indianapolis, V.M.&P. naphtha, 15.1 cents, spirits 16.7 cents. The normal price for V.M.&P. naphtha in Indianapolis, it may be pointed out, is 19.2 cents. In Detroit the jobbers show little price discrimination, nearly any product outside of lacquer diluents being sold off the tank wagon for 9 cents.

Kerosene Markets

The kerosene tank car markets, along with the distillates, have held to recent price advances firmly and are now in the peculiar position of selling, albiet somewhat slowly, in the gasoline price ranges. As already mentioned, the prices appear to be stopped at their present comparatively high levels until there is a decided change in weather conditions. Distillates and fuel oils were moving slowly but there is no indication of incipient weakness anywhere along the line. In fact, several refiners who have been holding down their prices slightly have now moved up with the majority of producers.

East Coast Gasoline Market Resists the Bearish Reaction of Cuts in Southwestern District

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, Dec. 5.—Although refinery gasoline markets in East Coast territory have failed to achieve the price advance which appeared so imminent a few weeks ago, the market has successfully withstood the pressure for lower prices which has developed during the past fortnight as a result of the weakening in gasoline prices in Group 3 territory and in the Gulf Coast area. Refiners here characterize their market as "fairly steady," although it is admitted that the price mark-up which was contemplated a few short weeks ago is now unlikely of fruition. Refiners in this area have, however, increased their netback on tank car sales of motor gasoline of 65 octane and above by one-half cent per gallon, through the unostentatious elimination of the half-cent rebate allowed to contract buyers of this grade which was introduced with considerable fanfare a few months back.

Tank Wagon Gasoline

Definite indications of an easing off in the position of the retail gasoline market were evident in some sections of the territory last week. Following the development of price shading, Standard Oil Co. of New York reduced its tank wagon and service station quotations 1 cent per gallon at Buffalo and one-half cent per gallon at Providence. Further reductions are looked for in other points in the territory as price cutting grows with the seasonal drop in demand. Other leading marketers have followed Socony's reductions.

Refinery Gasoline

Posted prices remain unchanged on both the regular U. S. Motor grade, under 65 octane number, and the high test product, base prices being 6¼ cents per gallon for the former and 7 cents for the latter, in tank cars, f.o.b. refineries or terminals.

Refiners have revoked the half-cent discount previously allowed to contract buyers in the tank car markets, and this action, in effect, has constituted a half-cent mark-up in the posted price.

Kerosene

The heavy gallonage in kerosene continues the outstanding feature of the refined products market, and posted prices in the tank wagon market have remained firm at 5½ cents per gallon under the stimulus of continued active buying. Whether the exceptionally heavy gallonage is due to the extended use of kerosene for cooking or heating, or whether it may be more properly attributed to the operations of gasoline blenders and bootleggers is still a moot question.

Tank wagon kerosene business has likewise continued to run into large totals, and posted prices remain steady and unchanged throughout the territory.

Exports

The export outlook has been brightened by the progress made by the international group in pushing their marketing and price compact with Rumania. At a meeting of the interested companies now in progress in Paris, methods of making this pact operative are under discussion and it is expected that export markets will immediately reflect the operation of the agreement by a general advance approximating 25 per cent on principal products. As present posted export prices at Constanza are but slightly under those in effect at the U. S. Gulf, the position of the latter market should show a stronger undertone.

Contrary to press reports, it is understood in trade circles here, representatives of the Soviet oil trust are not participating in the deliberations at Paris, and there is no indication of any reopening of the negotiations to bring the Soviet oil trust within the scope of the world compact which the major world companies are endeavoring to arrange.

Furnace Oil

Refinery shipments of domestic heating oils were again running into large totals during the past week, and posted prices continued strong and unchanged on all grades. The general weakening of crude prices in the Southwest is coming in for more attention in furnace oil circles, however, and some operators are inclined to look for a gradual weakening in price structure in the furnace oil division as cheaper crude becomes more general.

Tank wagon furnace oil sales were heavy throughout the week, with leading marketers adhering to previously quoted prices. Indications point to a record gallonage this season, particularly on the 32-36 grade, which is most generally used in most types of domestic oil burners used in this territory.

Fuel Oil

No change developed in bunker "C" prices during the week, refiners still posting 75 cents per barrel in bulk at terminals, and 80 cents per barrel f.a.s. Volume of business is holding at about indicated levels for this season of the year, with contract deliveries accounting for the bulk of the movement.

The market undertone appears to have eased off somewhat, however, reflecting the easier crude oil market price basis in the Southwest, and continued maintenance of the 75-cent price level is now somewhat in doubt.

Diesel Oil

With most of the current marine gallonage moving on contract, and 1933 business generally on the books, the Diesel oil market presented a quiet appearance last week, and prices were unchanged at $1.65 per barrel in bulk at terminals.

Although the statistical position of the market has softened somewhat as a result of the renewed easiness in crude oil, the Diesel oil situation is less directly affected than other products, and refiners are optimistic regarding the possibility of maintenance of present price schedules.

Gas Oil

Refiners are contracting their 1933 business in this area at a flat 4 cents per gallon basis, and a fair amount is already on the books at this price, f.o.b. refinery or terminal. A number of gas manufacturing companies are swinging over to the heavier oil for gas enriching, and this is naturally reacting against gallonage totals. The spot market is posted at 4 cents, and principal sellers are now adhering to this figure, after a little cutting in some parts of the territory during recent weeks.

Lubs

Continued softness is in evidence in the market for cylinder oils, and prices were quoted off one-half cent per gallon on all grades during the week. Export demand continues limited, and the situation is considerably complicated by the growing weakness in foreign currencies incidental to the war debt negotiations.

Red and pale oils were in quiet position throughout the week, with prices again unchanged.

Paraffin Wax

Export inquiry was a little more active, and foreign buyers were inclined to take on additional stocks of both crude scale and fully refined grades where orders could be placed "at a price." While there are some distressed stocks of wax on the market, refiners in general are showing no inclination to meet the low bids of export buyers.

Spot prices were unchanged on all grades of fully refined wax during the week. Demand for prompt shipment stocks had ebbed considerably, and domestic consumers have not yet come into the market for supplies for the first quarter of 1933, making it a rather quiet market all around.

Gulf Export Market

No additional inquiries developed at the Gulf during the week, and the two cargoes of 64-66 375 endpoint for December-January shipment which France had put inquiries in for during the previous week were still open. Gulf suppliers have become reluctant to quote on French inquiries, as almost invariably such cargoes recently, after being tendered in the Gulf market, have finally been placed at Constanza, and the inquiries have served only to further unsettle and weaken the Gulf export market. Suppliers this week continued to quote the market nominally unchanged at 4 cents for U. S. Motor, and 4½ cents for other export grades. Kerosene was also unchanged at 4½ cents for 41-43 prime white and 4⅜ to 4½ cents a gallon for 41 water white.

Constanza quotations, as of November 19, had been lowered 48 cents per ton on 730 gravity gasoline (corresponding to our 64-66 375 endpoint) to $17.70 per ton, other grades remaining unchanged. At $17.70 per ton, light Rumanian gasoline figures out 4.88 cents per gallon, and at the present price of $14.26 per ton for heavy Rumanian gasoline (comparable to our U. S. Motor) the market for the latter figures out 4.06 cents per gallon.

American, British, Dutch and Rumanian oil interests are conferring at Paris this week on plans for making the recent Rumanian compact effective and it is understood that the meeting aims at an agreement to effect price increases averaging 25 per cent on Rumanian refined products for export. In as much as f.o.b. Constanza quotations, under the terms of the compact, are to be based on the open U. S. Gulf market, corresponding advance at the Gulf is indicated on successful completion of the present negotiations.

American export operators are closely following the situation developed by the attempt of the Persian government to cancel Anglo-Persian Oil Co.'s concession in Persia, as such a move would have an important bearing on export demand for American refined products. The British cabinet, it is understood, will take up the Persian question as soon as the war debt situation with the United States is cleared up. The British government has a controlling stock interest in Anglo-Persian.

Petroleum Exports

A substantial improvement in export movement of refined petroleum products has developed locally, although the increases are attributed in large measure to shipments by large American companies to foreign marketing subsidiaries, as little new business has come into the open market here during recent weeks.

The following table shows exports of principal refined petroleum products reported from the local port during the three weeks ended November 26 (all figures in gallons unless otherwise noted):

	Week ended		
	Nov. 26	Nov. 19	Nov. 12
Gasoline	135,000	5,000	9,000
Naphtha	875,000	580,000	.....
Kerosene	11,000	.....	26,000
Fuel and gas oil	337,000	65,000	5,000
Lub. oil	1,509,000	490,000	485,000
Pet., refined	1,010,000	260,000	60,000
	Pounds		
Petrolatum	.....	4,000	125,000
Paraffin wax	2,295,000	1,875,000	1,545,000
Refined	473,000	780,000	60,000
Scale	495,000	285,000	420,000
Lub. grease	445,000	590,000	785,000

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended November 26 totaled 654,000 bbls., a daily average of 93,429 bbls., compared with 746,000 bbls., or 106,571 bbls. daily, during the previous week, and a daily average of 106,036 bbls. per day for the four weeks ended November 26. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast ports—	
Baltimore	71,000
New York	370,000
Philadelphia	213,000
Total	654,000
Daily average	93,429
Daily average four weeks	106,036

There were no imports at Gulf Coast ports during the week.

Arrivals of foreign oil at East Coast ports during the week totaled 466,000 bbls. of crude petroleum and 188,000 bbls. of fuel oil.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic Coast ports during the week totaled 210,000 bbls., a daily average of 30,000 bbls., compared with 85,000 bbls., or 12,143 bbls. daily, during previous week and a daily average of 24,107 bbls. for the four weeks ended November 26. There were no arrivals at Gulf Coast ports from California during the week.

The week's receipts from California comprised 108,000 bbls. of gasoline, 94,000 bbls. of gas oil and 8,000 bbls. of lubricants. Of the total receipts, 30,000 bbls. came in at Baltimore and 180,000 bbls. at New York.

At the close of the week the following cargoes of California refined products were reported afloat for Atlantic and Gulf ports:

For Port Arthur—77,000 bbls. of gas oil on the tanker Oregon (The Texas Company boat) and 74,000 bbls. of fuel oil on the tanker Larry Doheny (Richfield boat).

For Tiverton, R. I.—78,000 bbls. of kerosene on the tanker Betterton (Associated Oil Co. boat).

For New York—80,000 bbls. of gasoline on the tanker Tulsagas (Associated Oil Co. boat) and 91,000 bbls. of gasoline on the tanker Empire Arrow (Socony-Vacuum boat).

For Chester, Pa.—117,000 bbls. of gasoline on the tanker Sun (Sun Oil Co. boat).

For Baltimore—73,000 bbls. of gasoline on the tanker Lightburne (The Texas Company boat).

Tanker movement through the Panama Canal was held up somewhat during the week by floods resulting from a heavy storm, which interfered with locking operations and forced a short shut down of vessel movement through the canal.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils, which became effective June 21, 1932.

Gasolines

	Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—				
*U. S. Motor	.03½	.04	.03¾	.04½
60-62 400	.03¾	.04½	.04	.04½
64-66 390	.04	.04¼	.04¼	.04½
64-66 375	.04¼	.04½	.04⅝	.04⅞
68-70 350	.04½	.04⅝	.04½	.05
NORTH TEXAS—				
*U. S. Motor	.03⅝	.03½	.03⅝	.03⅞
60-62 400	.03¾	.03¾	.03⅞	.04
64-66 390	.03⅞	.04	.04⅛	.04¼
64-66 375	.04	.04¼	.04¼	.04½
64-66 360	.04¼	.04½	.04⅜	.04¾
†NORTH LOUISIANA—				
*U. S. Motor	.04	.04½	.04¼	
60-62 400	.04¼	.04½	.04½	
†ARKANSAS—				
*U. S. Motor	.04	.04¼	.04¼	
CHICAGO (Based on Oklahoma Group 3)—				
*U. S. Motor	.03⅝	.03⅝	.03⅝	.03⅞
60-62 400	.03½	.03¾	.03⅞	.04¼
64-66 375	.04⅜	.04⅝	.04⅜	.04⅝
Aviation fighting grade	.05	.05¼	.05	.05¼
68-70 360	.04¾	.04⅞	.04¾	.04⅞

Octane Ratings—Above quotations cover price ranges on gasoline in which no octane rating is given. On December 6, in the case of the U. S. Motor and 60-62 400 endpoint grades, where an octane rating of 57-65, inclusive, is guaranteed, prices are three-eighths cent per gallon higher than quotations shown in above tables; where an octane rating of better than 65 is guaranteed, the prices are five-eighths cent higher. In the case of the remaining grades, gasolines of 65 octane rating or higher are quoted one-half cent higher than the quotations shown in above tables.

*Present distillation specifications on U. S. Motor gasoline are: 10 per cent evaporated, 167° F. maximum; 50 per cent, 284° F. maximum; 90 per cent, 392° F. maximum; residue not exceeding 2 per cent; maximum vapor pressure, 12 pounds. Additional specification on U. S. Motor gasoline available from bulletins of Bureau of Mines, Washington, D. C.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.06	.06½	.06	.06¼
60-62 400	.06¼	.06½	.06¼	.06½
64-66 375	.06½		.06½	
68-70 350	.06¾		.06¾	

Octane Ratings—In the case of U. S. Motor and 60-62 400 endpoint grades, same price differentials based on octane ratings as shown in above tables for Oklahoma and other Mid-Continent areas:

CALIFORNIA—(domestic movement only)—				
54-58 U. S. Motor	.06	.06½	.06	.06½
58-60 400	.07	.07½	.07	.07½
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.06¼		.06¼	.06½
Boston	.06¼		.06¼	.06½
Baltimore, Md.	.06¼		.06¼	
Charleston, S. C.	.06¼		.06¼	
U. S. Motor, 65 octane and above:				
New York (Bayonne)*	.07		.06½	.07
Boston	.07		.07	
Baltimore, Md.*	.07		.06½	.07
Charleston, S. C.*	.07		.06½	.07
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05¼	.05½	.05½	
U. S. Motor, below 65 octane number	.04½	.04¾	.04⅝	.04⅞

*Contract price.

Naphthas

OKLAHOMA (Group 3)— Dec. 6			Nov. 29	
50-52 450 (blending)	.03¾	.04	.03⅞	.04⅛
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.06¼	.06½	.06¼	.06½
ARKANSAS—				
48-50 450 (blending)	.04¼		.04¼	.04½
CHICAGO (Based on Oklahoma Group 3)—				
50-52 450 (blending)	.03½	.03¾	.03¾	
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.06¼	.06½	.06¼	.06½
Lacquer diluent, 180 i.b.p.-250 e.p.	.07½	.07¾	.07½	.07¾
Lacquer diluent, 140 i.b.p.-200 e.p.	.08	.08¼	.08	.08¼
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06	.06¼	.06	.06¼
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.05¾	.06	.05¾	.06
Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.05	.05¼	.05	.05¼
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06	.06¼	.06	.06¼
Petroleum spirits	.03¾	.04	.03¾	.04

Natural Gasolines

	Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—				
Grade 18-55	.03¾		.03⅜	
Grade 26-70	.03		.02¾	
Grade 30-70	.02⅞		.02⅝	
*Low vapor pressure grades:				
15 lb. v.p. (max.)	.04		.03⅞	
11 lb. v.p. (max.)	.04½		.04¼	.04⅜
NORTH TEXAS—				
Grade 18-55	.03⅝		.03¼	
Grade 26-70	.02⅞		.02⅝	
Grade 30-70	.02¾		.02½	
*Low vapor pressure grades:				
15 lb. v.p. (max.)	.04		.03⅞	.03⅞
11 lb. v.p. (max.)	.04½		.04¼	
NORTH LOUISIANA—				
Grade 26-70	.03¼		.03	
CALIFORNIA—				
75-78 375	.04¾	.05½	.04¾	.05½

Note—Grades 18-55, 26-70 and 30-70 are three of 24 grades adopted by the Natural Gasoline Association of America effective January 1. The grades are based on pounds vapor pressure and amount evaporated at 140° F. While not exactly the same specifications apply, Grade 18-55 corresponds to the former Grade A, Grade 26-70 to former Grade AA and Grade 30-70 to former Grade BB.

*All low vapor pressure grades have minimum recovery of 96 (natural gasoline method.)

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)— Dec. 6			Nov. 29	
41-43	.03⅜	.03¾	.03½	.03¾
42-44	.03⅞	.03⅞	.03¾	.03⅞
NORTH TEXAS—				
40-41	.03¼	.03⅜	.03⅜	
41-43	.03⅜	.03½	.03½	
†NORTH LOUISIANA—				
41-43	.03¾		.03¾	.04
42-44	.04		.04¼	
†ARKANSAS—				
41-43	.03¾		.03⅝	.04
PENNSYLVANIA (inland refineries)—				
45	.04½	.04⅝	.04⅝	.04¾
46	.04⅝	.04¾	.04¾	.04⅞
47	.04⅝	.04⅞	.04¾	.05
CHICAGO (Based on Group 3)—				
41-43	.03½	.03¾	.03½	.03¾
42-44	.03⅝	.03¾	.03⅝	.03⅞
•CALIFORNIA—				
38-40 high burning test	.04	.04¾	.04	.04¾
NEW YORK (Bayonne, N. J.)—				
41-43	.05½		.05½	
GULF COAST (domestic)—				
41-43 water white	.04¾	.05	.04¾	.05

*For Pacific Coast consumption.
†For Arkansas, Louisiana and Mississippi delivery.

Tractor Fuels*

OKLAHOMA (Group 3)— Dec. 6			Nov. 29	
39-40 prime white	.03⅝		.03⅝	.03½
38-40 light straw	.03¼	.03⅜	.03¼	.03½
NORTH TEXAS—				
38-40 light straw	.03⅛	.03¼	.03¼	.03⅜
CHICAGO (Based on Group 3)—				
38-40 light straw	.03½	.03⅝	.03½	.03⅝
PENNSYLVANIA (inland refineries)—				
41-43 prime white	.04¼		.04¼	

*There are no standard specifications for tractor fuels. Grades commonly sold have flash under 175° F. (open cup) and under 575° F. endpoint and less than .2 per cent sulphur. Tractor fuels are available from all Mid-Continent refining groups at prices in line with the Oklahoma market taking into consideration differentials in freight rates.

Furnace Oils*

OKLAHOMA (Group 3)— Dec. 6			Nov. 29	
32-36 straw	.03½	.03¼	.03½	.03¼
36-38 straw	.03¼		.03¼	.03⅜
38-40 straw	.03¼	.03⅜	.03⅜	
39-41 prime	.03⅜	.03½	.03⅜	.03½
NORTH TEXAS—				
38-40 straw	.03½	.03¼	.03¼	.03⅜
†NORTH LOUISIANA—				
36-40	.03¾	.04	.04	
†ARKANSAS—				
32-36	.03½	.03¾	.03⅜	.03½
CHICAGO (Based on Group 3)—				
32-36 straw	.03¼	.03⅜	.03½	.03⅜
38-40 straw	.03½		.03½	
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¾	.04	.03¾	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04	
36-40	.05		.05	
21 (industrial)	.03½		.03½	

*Above prices are for furnace oils of zero cold test under 190° F. flash and good odor.
†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

	Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—				
32-36 (G.O.)	.02½	.02¼	.02½	.02¼
32-36 (G.O.) cracking stock	.02⅛	.02¼	.02⅛	.02¼
U.G.I. (G.O.)	.02	.02¼	.02⅛	.02¼
32-36 zero to 15 (G.O.) high flash	.02¾	.03	.02⅞	.03
28-30, zero to 10	1.00	1.05	1.00	1.05
26-30, zero to 10	.85	.90	.85	.90
24-26	.65	.70	.65	.70
20-22	.52½	.60	.55	.60
Below 16	.42½	.45	.42½	.47½
NORTH TEXAS—				
32-36 (G.O.) industrial	.01⅞	.02	.01⅞	.02
22-26	.50	.55	.50	.55
Below 20	.45	.50	.45	.50
NORTH LOUISIANA—				
32-36 (G.O.) zero	.03¼		.03¼	
14-16	.40	.45	.40	.45
†ARKANSAS—				
30-32 (G.O.) zero high flash	.03¼		.03¼	
14-16	.40	.45	.40	.45
CHICAGO (Based on Group 3)—				
32-36 (G.O.) industrial	.02¼	.02½	.02¼	.02½
28-30 (zero)	1.10		1.10	
22-26	.72½	.77½	.72½	.77½
18-22	.65	.70	.65	.70
Below 18	.60	.65	.60	.65
PENNSYLVANIA (inland refineries)—				
36-40	.03¼	.03½	.03¼	.03½

Note—Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.75	.85	.75	.85
27 plus Diesel	.75	.85	.75	.85
15-19 bunker (at tidewater)	.55	.65	.55	.65
15-19 (cargo lots)	.50	.60	.50	.60
15-19 (tank cars)	.40	.55	.40	.55
GULF COAST—				
28-30 (G.O.)	.03½	.03¾	.03½	.03¾
28-30 Diesel	1.50	1.65	1.50	1.65
Bunker C (bulk cargoes)	.45	.50	.45	.50
Bunker C (bunkers)	.60		.60	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.65		1.65	
26-30 Diesel (tank cars)	.04		.04	
†Bunker C	.75		.75	

*Lighterage 6½ cents per barrel.
†Lighterage 5 cents per barrel.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	5.50	5.50
Still runs	6.50	6.50
Lump and egg	7.50	7.50

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

	Dec. 6		Nov. 29	
OKLAHOMA (Group 3)— Zero to 10 Cold Test:				
105-3	.06¼	.06½	.06¼	.06½
180-3	.07½	.07¾	.07½	.07¾
180-4	.07	.07¼	.07	.07¼
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.09¾	.10	.09¾	.10
240-4	.09¼	.09½	.09¼	.09½
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½
300-3½	.11¾	.12	.11¾	1.2

350-3½	.12¼	.12½	.12¼	.12½
400-4	.12¾	.13	.12¾	.13
500-4½	.13	.13½	.13	.13½
100-2 paraffin oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07½	.07¾	.07½	.07¾
200-4	.07¼	.07½	.07¼	.07½
240-3	.09¼	.09½	.09¼	.09½
240-4	.08¾	.09	.08¾	.09
280-3	.10¾	.11	.10¾	.11
280-4	.09¾	.10	.09¾	.10
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.12	.13	.12	.13
10 pour test	.11	.12	.11	.12
15 pour test	.10	.10½	.10	.10½
25 pour test	.09	.09½	.09	.09½
180 vis., No. 3, 25 pour test	.12	.12½	.12	.12½
200 vis., No. 3:				
Zero pour test	.18	.19	.18	.19
10 pour test	.17	.18	.17	.18
15 pour test	.16		.16	
25 pour test	.13½	.14	.13½	.14
30 pour test	.13		.13	
GULF COAST—				
Pale Oils:				
100-2-2½	.04¾	.05	.04¾	.05
200-3	.06	.06¼	.06	.06¼
300-3	.07		.07	
500-3½	.08¾	.09	.08¾	.09
750-3½	.09¾	.10	.09¾	.10
1,200-3½	.11¾	.12	.11¾	.12
2,000-4	.12½	.13	.12½	.13
Red Oils:				
200-5-6	.05		.05	
300-5-6	.05¾	.06	.05¾	.06
500-5-6	.07¾	.08	.07¾	.08
1,200-5-6	.10¾	.11	.10¾	.11
2,000-6 plus	.12	.12½	.12	.12½
CALIFORNIA—				
Pale Oils:				
100-2½-3	.08	.08½	.08	.08½
200-2½-3	.08¾	.10	.08¾	.10
300-3-3½	.10	.10½	.10	.10½
350-3-4	.10¾	.11	.10¾	.11
400-3-4	.11	.11½	.11	.11½
450-3-4	.11½	.12	.11½	.12
550-3-4	.12	.12½	.12	.12½
Red Oils:				
200-4½-5	.08¾	.09¼	.08¾	.09¼
300-5-6	.09½	.10½	.09½	.10½
350-5-6	.10½	.10¾	.10½	.10¾
400-5-6	.10¾	.11¼	.10¾	.11¼
450-5-6	.11¼	.11½	.11¼	.11½
500-5-6	.11½	.12	.11½	.12
600-5-6½	.12	.12¼	.12	.12¼
700-6½ plus	.12¼	.12½	.12¼	.12½
750-6½ plus	.12½	.12¾	.12½	.13¾
900-6½ plus	.13	.14½	.13	.14½

Bright and Steam Refined Stocks

	Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—				
630 light green	.07¾	.08	.07¾	.08
600 light green S.R.	.05	.06	.05	.06
600 dark green S.R.	.04	.04½	.04	.04½
Bright Stocks:				
190-200 D	.17½		.17½	
150-160 D, 0-10	.15½		.15½	
150-160 D, 10-25	.15		.15	
150-160 D, 25-40	.14½		.14½	
150-160 E	.14½		.14½	
PENNSYLVANIA—				
600 S.R.	.09½	.10½	.09½	.10½
650 S.R.	.12	.13	.12	.13
600 Pennsylvania flash	.13	.13½	.13	.13½
630 D filtered	.19	.19½	.19	.19½
600 E filtered	.14	.15	.14	.15
Pennsylvania Grade bright stock:				
Bright Stock, No. 8 color, 145-50 vis.				
210-540-550 flash:				
10 pour test	.21	.22½	.21	.22½
15 pour test	.20	.21	.20	.21
25 pour test	.18	.19	.18	.19

Wax and Petrolatum

(Prices per pound)

	Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—				
124-126 white crude scale	.01⅞	.02	.01⅞	.02
PENNSYLVANIA—				
122-124	.02⅛		.02⅛	
124-126	.02⅛	.02¼	.02⅛	.02¼
NEW YORK (Bayonne, N. J.)—				
Refined Wax:				
120-122	.02⅝		.02⅝	
125-127	.02¾		.02¾	
130-132	.03		.03	
133-135	.04		.04	
135-137	.04⅛		.04⅛	

Petrolatum in barrels in carload lots:				
Dark green	.01¾		.01¾	
Amber	.02⅛		.02⅛	
Extra amber	.02½		.02½	
Cream	.04⅝		.04⅝	
Lily white	.05½		.05½	
Snow white	.06½		.06½	

Export Prices

	Dec. 6		Nov. 29	
GASOLINE				
GULF COAST—				
U. S. Motor	.04		.04	
60-62 400	.04½		.04½	
61-63 390	.04½		.04½	
64-66 375	.04½		.04½	
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.03¾	.04¼	.03¾	.04¼
U. S. Motor, 65 octane num.	.05		.05	
U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-60 400 endpoint gasoline	.04¼	.05	.04¼	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04¼	
41 water white	.04⅜	.04½	.04⅜	.04½
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 filtered	.21½		.22	
600 Warren E	.18½		.19	
600 S.R. unfiltered	.16½		.17	
650 S.R. unfiltered	.18		.18½	
600 flash S.R.	.19		.19½	
630 flash S.R.	.23½		.24	
Bright stock, No. 8 color	.24		.24½	
Bright stock, No. 6½ color, dil.	.23½		.24	
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.10	.10¼	.10	.10¼
180-3½	.09½	.09¾	.09½	.09¾
100-2¼	.05	.05½	.05	.05½
Red Engine Oil, Bulk (vis. at 100):				
300-6½	.09½	.09¾	.09½	.09¾
250-6	.09	.09¼	.09	.09¼
200-6	.08½		.08½	

Crude Oil Prices

Oklahoma, Kansas, North and East Central Texas

East Texas (Oct. 15, 1932)* $1.10
East Texas (Oct. 1, 1932)† ..... .98
Corsicana heavy (Oct. 15, 1932)‡ ..... .74
Other fields ..... See gravity table

*Posted by Sun Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Panola Pipe Line Co., The Texas Company, Gulf Pipe Line Co., Toronto Pipe Line Co.
†Posted by Humble Oil & Refining Co., October 1, 1932; posted by Tidal Refining Co. and Atlas Pipe Line Co., April 11, 1932.
‡Magnolia Petroleum Co.

West Texas

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos counties ..... See note below
Lea County, New Mexico ..... (See Rocky Mountain States)
Toborg, Pecos County* ..... $ .65

Note—Effective October 15, 1932, The Texas Company, Magnolia Petroleum Co., Shell Petroleum Corp. and Gulf Pipe Line Co., 75 cents; effective April 11, 1932, Humble Oil & Refining Co. and Stanolind Oil & Gas Co., 65 cents; effective November 22, Cel-Tex Refining Co., 65 cents.
*Shell Petroleum Corp., effective October 15, 1932.

Texas Panhandle

Gray County, Wheeler County and Carson-Hutchinson Counties ..... See gravity table

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers ..... See gravity table
Jennings, La. (Apr. 11, 1932)* ..... $ .75
Lockport, La. ..... See Gulf Coast gravity table
Refugio, light ..... See gravity table
Refugio, heavy (Apr. 11, 1932)‡ ..... .80
Markham (Oct. 15, 1932)§ ..... See Gulf Coast gravity schedule
High Island (Apr. 11, 1932)¶ ..... See Gulf Coast gravity schedule

*Gulf Refining Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Yount Lee Pipe Line Co.

South Central and Southwest Texas

Darst Creek ..... See note below
Luling (Oct. 15, 1932)* ..... $
Mirando (Nov. 21, 1932)† ..... .70
Mirando (Oct. 15, 1932)* ..... .90
Pettus (Apr. 11, 1932)† 1.0
Salt Flat ..... See note below
Thrall‡ .....
Lytton Springs (Lockhart) (Oct. 15, 1932)* 1.01
Dobrowolski¶ .....
Same as Mid-Continent gravity scale up to and including 38-38.9°
Somerset¶ .....
Same as Mid-Continent gravity scale up to and including 38-38.9°

Note—Darst Creek, effective October 15, 1932, Magnolia Petroleum Co., The Texas Company and Gulf Pipe Line Co., 85 cents effective April 11, 1932, Humble Oil & Refining Co., 75 cents. Salt Flat, effective October 15, 1932, Magnolia Petroleum Co and Shell Petroleum Corp., 85 cents; effective April 11, 1932, Humble Oil & Refining Co. 75 cents. Humble Oil & Refining Co. posted 80 cents for Mirando crude oil on April 11, 1932.
*Posted by Magnolia Petroleum Co.
†Humble Oil & Refining Co.
‡Thrall prices same as North Central Texas, less 19¼ cents per cwt. freight.
§Pioneer Oil & Refining Co.
¶Greyburg Oil & Refining Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) ..... See note below
Urania, La. (Oct. 15, 1932) ..... $ .70
East El Dorado, Ark. (Oct. 15, 1932) .. .75
Stephens, Ark., below 29° (Apr. 12, 1933) .61
Stephens, Ark., 29° and above (Apr. 12, 1932) ..... .64
Other fields ..... See gravity table

Note—Smackover, all grades, effective October 15, 1932, The Texas Company, Magnolia Petroleum Co., Louisiana Oil & Refining Co., Gulf Refining Co. of Louisiana, 75 cents; effective April 11, 1932, Standard Oil Co. of Louisiana, 60 cents. Urania posted by H. L. Hunt, Inc., and Louisiana Oil & Refining Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co. Stephens, Ark., posted by Louisiana Oil & Refining Co. and Atlantic Oil Producing Co.

Rocky Mountain States

OHIO OIL CO.-MIDWEST REFINING CO.
Iles, light (Aug. 24, 1931) ..... $ .75
Iles, heavy (Aug. 24, 1931) ..... .53
Fort Collins, Wellington and Greasewood, Colo., are on contract basis.
Florence (Oct. 15, 1932) ..... .92
Dutton Creek, Wyo. (Apr. 11, 1932) ..... .82
Rock Creek, Wyo. (June 1, 1932) ..... .90
Frannie, light (Nov. 3, 1931) ..... .61
Frannie, heavy (Nov. 3, 1931) ..... .51
Salt Creek ..... See Stanolind Mid-Continent price schedule
LaBarge ..... Mid-Continent gravity scale
Big Muddy (Apr. 11, 1932) ..... .93
Grass Creek (June 1, 1932) 1.10
Elk Basin (June 1, 1932) 1.10
Lance Creek (Apr. 11, 1932) 1.15
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Apr. 15, 1931) ..... .95
Lost Soldier (Apr. 12, 1932) ..... .80
Hamilton Dome (Nov. 3, 1931) ..... .45
Greybull (Nov. 7, 1932) 1.10
Cat Creek (Apr. 11, 1932) 1.30
Pondera (Nov. 7, 1932) ..... .60
Sunburst, Mont. (Nov. 7, 1932) ..... .75
Hogback, N. Mex. (Aug. 24, 1931) ..... .80
Border, Mont. 1.55
Red Coulee, Alberta 1.55
Lea County, N. Mex. ..... See note below

(Continued on Page 31)

Crude Oil Gravity Table

Degrees gravity—	1 Kansas, Oklahoma, North Texas, East Central and Central Texas	2 Kansas, Oklahoma, North Texas, East Central Texas and Central Texas	3 North Louisiana and Arkansas	4 North Louisiana and Arkansas	5 Hutchinson, Carson and Moore Counties, Texas	6 Gray County, Texas	7 Hutchinson, Carson and Moore Counties, Texas	8 Gray County, Texas	9 Gulf Coast Texas and Louisiana	10 Gulf Coast Texas and Louisiana	11 Cameron Meadows, Louisiana	12 Salt Creek and La Barge, Wyoming
Below 25	....	..	$ .80	$ .68	....	..	....	..	$ .90	$ .80	$ .80	..
25-25.9	....	....	.82	.70	....	..	....	..	.91	.81	.81	..
26-26.9	....	....	.84	.72	....	..	....	..	.92	.82	.82	....
27-27.9	....	....	.86	.74	....	..	....	..	.93	.83	.83	....
28-28.9	....	....	.88	.76	....	..	....	..	.94	.84	.84	....
Below 29	$ .88	$ .76	....	....	....	..	....	..	....	....	....	$ .76
29-29.9	.90	.78	.90	.78	$ .65	$ .77	....	....	.95	.85	.85	.78
30-30.9	.92	.80	.92	.80	.67	.79	....	....	.96	.86	.86	.80
31-31.9	.94	.82	.94	.82	.69	.81	....	....	.97	.87	.87	.82
32-32.9	.96	.84	.96	.84	.71	.83	....	....	.98	.88	.88	.84
33-33.9	.98	.86	.98	.86	.73	.85	....	....	.99	.89	.89	.86
34-34.9	1.00	.88	1.00	.88	.75	.87	$ .66	$ .76	1.00	.90	.90	.88
35-35.9	1.02	.90	1.02	.90	.77	.89	.68	.78	1.01	.91	.91	.90
36-36.9	1.04	.92	1.04	.92	.79	.91	.70	.80	1.02	.92	.92	.92
37-37.9	1.06	.94	1.06	.94	.81	.93	.72	.82	1.04	.94	.94	.94
38-38.9	1.08	.96	1.08	.96	.83	.95	.74	.84	1.06	.96	.96	.94
39-39.9	1.10	.98	1.10	.98	.85	.97	.76	.86	1.08	.98	.98	.94
40 and over	1.12	1.00	1.12	1.00	.87	.99	.78	.88	1.10	1.00	1.00	.94

Column 1—Effective October 15, in Kansas, Oklahoma, North Texas, East Central Texas and Central Texas by Sinclair Prairie Oil Marketing Co.; in Oklahoma, North Texas, East Central Texas and Central Texas by Magnolia Petroleum Co. (Magnolia's schedule begins below 28 degrees, 79 cents; 28-28.9 degrees, 88 cents, with 2 cents added for each degree upward to 40 and over at $1.12); in Kansas, Oklahoma and North Texas by Continental Oil Co.; in Oklahoma and North and Central Texas by The Texas Company; in Kansas and Oklahoma by Philtex Oil Co., Empire Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Gypsy Oil Co., National Refining Co.; in Oklahoma by Barnsdall Refineries, Inc., Deep Rock Oil & Refining Co., Producers Oil Co.; in North and Central Texas by the Gulf Pipe Line Co.; in Kansas by the Skelly Oil Co., White Eagle Oil Corp. and Eldorado Refining Co.

Column 2—Effective April 11, in Kansas, Oklahoma and North Central Texas by the Stanolind Crude Oil Purchasing Co.; in Kansas and Oklahoma by Carter Oil Co.; in East Central, Central and North Texas by the Humble Oil & Refining Co.; in Oklahoma by Mid-Continent Petroleum Corp., Champlin Refining Co., Eason Oil Co., Pepper Gasoline Co.; in Kansas by Derby Oil Co. and Kanotex Refining Co. Effective November 22 by Eldorado Refining Co. in Kansas; November 22 by Anderson & Prichard, Inc., in Oklahoma. December 1, by Deep Rock Oil & Refining Co. in Oklahoma.

Column 3—Effective October 15, by The Texas Company, Louisiana Oil Refining Co. and Magnolia Petroleum Co., as per schedule above and Gulf Refining Co., whose schedule begins at below 29 gravity, 88 cents.

Column 4—Effective April 11, Standard Oil Co. of Louisiana and Stanolind Oil & Gas Co.

Columns 5 and 6—Effective October 15, Phil Tex Oil Co., as per above schedules. The Texas Company and Magnolia Petroleum Co. Texas and Magnolia schedules begin at below 35 gravity at 87 cents in Gray County and below 35 gravity at 75 cents in Hutchinson and Carson Counties.

Columns 7 and 8—Effective April 11, Humble Oil & Refining Co.

Column 9—Effective October 15, Sun Oil Co., Sinclair Prairie Oil Co., The Texas Company, Gulf Pipe Line Co., Magnolia Petroleum Co. (in Lockport and Iowa Pools).

Column 10—Effective April 11 by Humble Oil & Refining Co. in Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge and Refugio light oil. On November 21, 1932, Humble Oil & Refining Co. revised its Gulf Coast and Refugio prices for oil below 25 degrees as follows: Below 20 degrees, 60 cents; 20 to 24.9 degrees 70 cents. Effective July 18, the Humble Oil & Refining Co. posted Conroe crude as follows: 35-35.9 gravity, 90 cents, with 2 cents added for each degree upward to 40 and over, at $1. Tidal Refining Co. met the Humble's schedule in Conroe on November 9, 1932. Pure Oil Co., effective December 1, adopted Humble Oil & Refining Co.'s schedule from below 20 degrees at 60 cents, up to 35 degrees at 91 cents, but Pure Oil schedule stops at 35 degrees and above at 91 cents.

Column 11—Effective October 15, Magnolia Petroleum Co.

Column 12—Effective April 11, Midwest Refining Co.

(California Crude Oil Prices on Page 31)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

December 6, 1932

TAXES

The gasoline quotations given in the following tables include the 1-cent Federal tax as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is generally available at 1.5 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 3 cents above the service station price for the regular grade.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	15.1	15.1	4.0	10.0
Decatur, Ill.	17.6	17.6	4.0	10.1
E. St. Louis	16.9	14.9	4.0	9.3
Joliet	17.6	16.6	4.0	8.6
Peoria	17.6	15.6	4.0	10.1
Quincy	17.4	17.4	4.0	9.9
Davenport, Ia.	17.7	17.0	4.0	10.4
Des Moines	17.7	16.9	4.0	8.0
Mason City, Ia.	17.7	17.7	4.0	9.0
Sioux City	17.8	17.8	4.0	10.0
Duluth, Minn.	18.7	18.7	4.0	11.0
Mankato	18.8	18.8	4.0	8.1
Minneapolis	16.4	16.4	4.0	11.0
LaCrosse, Wis.	19.4	19.4	5.0	11.1
Green Bay, Wis.	18.8	18.8	5.0	10.5
Milwaukee	17.8	17.8	5.0	10.0
Madison	18.5	18.5	5.0	10.2
Detroit, Mich.	13 5	13 5	4.0	9.0
Grand Rapids	17.5	17.5	4.0	10.3
Saginaw	17.6	17.6	4.0	10.8
Evansville, Ind.	18.2	16.2	5.0	†13.9
Indianapolis	18.4	18.4	5.0	†14.1
South Bend	18.7	18.7	5.0	†14.4
Fargo, N. D.	20.1	20.1	4.0	13.0
Huron, S. D.	19.5	19.5	5.0	11.8
Sioux Falls	19.0	19.0	5.0	10.0
K. C., Mo.*	15.1	15.1	4.0	8.7
Springfield*	17.0	17.0	4.0	8.0
St. Louis	11.5	11.0	4.0	9.4
St. Joseph*	13.0	13.0	4.0	7.5
Wichita, Kans.	15.9	14.9	4.0	7.0
Bartlesville, Okla.	14.5	17.0	5.0	8.0

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

†Includes 4-cent tax. Buyers of kerosene not used as motor fuel can secure refund of tax.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

Stanolind Furnace Oil in Chicago

Effective November 1, 1932, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), 100 gallons or more, 7 cents; No. 2 (30-34 stw. zero), 150 gallons or more, 6½ cents; No. 3 (32-26 zero), 400 gallons or more 5.75 cents; No. 4 (12-16 zero), 400 gallons or more, 4.75 cents. Viscosity of No. 4, 90-115 at 100° F.

Fuel Oils

Chicago Oil Heat Institute Prices

Spot market prices on 350 gallons or over deliveries, and top prices on contracts, respectively: 38-40, 7 and 8 cents; 32-36 light, 6¾ and 7¾ cents; 32-36 dark, 6½ and 7½ cents; 28-30, 5¾ and 6¾ cents; 24-26, 5 and 6 cents; 18-22, 4¾ and 5¾ cents. On deliveries of less than 350 gallons the spot price is one-half cent higher.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	14.5	17.0	5.0	8.0
Fort Worth	14.5	17.0	5.0	8.0
Houston	14.5	17.0	5.0	8.0
San Antonio	14.5	17.0	5.0	8.0
El Paso	16.0	18.0	5.0	10.0
Texarkana	*16.0	16.0	5.0	†11.0
Muskogee, Okla.	15.5	16.0	5.0	8.0
Okla. City	14.5	17.0	5.0	8.0
Tulsa	14.5	17.0	5.0	8.0
Ft. Smith, Ark.	*16.5	16.5	5.0	†10.0
Little Rock	16.5	16.5	7.0	†10.0

*Less 2½ cents to dealers. †Less 3 cents to dealers.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	20 0	20.0	7.0	11.0
Augusta	20.0	20.0	7.0	11.0
Macon	20.0	20 0	7.0	12.0
Savannah	20.0	20.0	7.0	12.5
Birm'ham, Ala.	23.0	23.0	8.0	11.0
Mobile	22.0	22.0	8.0	10.0
Montgomery	23.0	23.0	8.0	13.5
Jackson, Miss.	19.0	19.0	7.0	10.0
Vicksburg	20.0	20.0	7.0	10.5
Jack'ville, Fla.	20.0	20 0	8.0	12.0
Miami	21.0	21.0	8.0	12.5
Pensacola	19.0	19.0	8.0	12.0
Tampa	20.0	20 0	8.0	13.0
Lexington, Ky.	18.5	18.5	6.0	10.5
Covington	19.0	19.0	6.0	10.5
Louisville	17.0	17.0	6.0	9.0
Paducah	19.0	19.0	6.0	8.0

A third grade "Kyso Green" is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 3 cents off tank wagon price throughout territory.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	16.0	19.0	5.0	13.5
Pueblo	16.0	19.0	5.0	13.5
Grand Jctn.	20.0	23.0	5.0	14.5
Casper, Wyo.	17.0	20.0	5.0	10.0
Cheyenne	16.0	19.0	5.0	11.5
Butte, Mont.	20.0	23.0	6.0	17.0
Billings	22.0	25.0	6.0	15.5
Great Falls	23.0	26.0	6.0	17.0
Helena	23 0	26.0	6.0	17.0
Salt Lake, Utah	17.0	20.0	5.0	16.0
Albu'que, N. M.	17 0	20 0	*7.0	14.0
Boise, Idaho	28.5	33.5	6.0	18.0
Twin Falls	20.5	33.5	6.0	18.0

*One-cent city tax.

Central South District

STANDARD OIL CO. (LOUISIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	16 5	16 5	*7.0	†11.0
Baton Rouge	16.5	16 5	6.0	†11.0
Alexandria	14 0	14.0	7.0	†8.5
Lafayette	16.0	16.0	7.0	†10.0
Lake Charles	16.0	16.0	7.0	†11.0
Shreveport	15.5	15.5	6.0	†11.0
Knoxville, Tenn.	18.5	18.5	8.0	11.5
Memphis	19.0	19.0	8.0	9.0
Chattanooga	18.0	18 0	8.0	11.0
Nashville	18.5	18.5	8.0	11.0
Bristol	19.0	19.0	8.0	13.0
Lt. Rock, Ark.	16.5	16.5	7.0	9.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Two-cent discount off kerosene tank wagon price and 2½ cents off gasoline tank wagon price to dealer and commercial accounts.

Ohio

STANDARD OIL CO. (OHIO)*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	17.5	18.0	5.0	*12.0

*Two cents off on gasoline tank wagon to dealers and commercial accounts; 2½ cents off tank wagon on kerosene to dealers.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	17.9	18.9	5.0	10.25
McCook	19.0	19.0	5.0	11.75
Norfolk	18.75	18.75	5.0	10.75
N. Platte	19.0	19.5	5.0	11.5
Scottsbluff	19.5	20.0	5.0	11.25

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	16.0	17.0	4.0	9.0
New York	16.5	16.5	4.0	9.5
Buffalo	17.0	18.0	4.0	9.0
Rochester	17.0	18.0	4.0	9.0
Syracuse	17.0	18.0	4.0	9.5
Boston, Mass.	15.5	16.5	4.0	8.0
Augusta, Me.	18.5	19.5	4.0	9.0
Manch'tr, N. H.	18.5	19.5	5.0	8.0
Burlington, Vt.	19.0	20.0	5.0	8.5

*Discount schedule to commercial accounts as follows: At service stations, 1 cent per gallon; tank wagon deliveries up to 20,000 gallons monthly, 2 cents per gallon; 20,000 to 100,000 gallons, 2½ cents; 100,000 to 300,000 gallons, 3 cents; 300,000 gallons and up, 3½ cents.

Atlantic Coast District

STANDARD OIL CO. (NEW JERSEY)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N. J.	15.7	16.7	4.0	11.2
Newark	15.0	16.0	4.0	8.5
Annapolis, Md.	16.3	17.3	5.0	10.0
Baltimore	15.7	16.7	5.0	8.0
Cumberland	17.2	18.2	5.0	11.7
Wash'g'n, D. C.	12.2	13.2	3.0	10.0
Danville, Va.	13.4	19.4	6.0	11.9
Norfolk	16.8	17.8	6.0	10.3
Petersburg	17.9	18.9	6.0	11.4
Richmond	17.2	18.2	6.0	10.7
Roanoke	18.4	18.4	6.0	11.9
Charles'n, W.Va.	17.1	18.1	5.0	11.6
Parkersburg	15.7	15.7	5.0	10.2
Wheeling	16.7	16.7	5.0	11.2
Charlotte, N. C.	20.0	21.0	7.0	12.5
Hickory	20.2	21.2	7.0	12.7
Mt. Airy	20.3	21.3	7.0	12.8
Raleigh	19.8	20.8	7.0	12.3
Salisbury	18.0	18.0	7.0	12.6
Charleston, S.C.	17.8	18.8	7.0	10.3
Columbia	19.7	20.7	7.0	12.2
Spartanburg	20.0	21.0	7.0	12.5

Two cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and Baltimore, Md., where discount is 3 cents. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey.

Naphtha

	Tank	
	Wagon	Car
Oleum spirits	10.7	6.23
V.M.P. naphtha	12.7	7.23
Cleaners' naphtha	15.2	9.23
Stanisol	15.2	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Canada

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Hamilton, Ont.	24.0	27.0	6.0	16.5
Toronto, Ont.	24.0	27.0	6.0	17.5
Brandon, Man.	30.5	34.0	7.0	20.5
Winnipeg, Man.	27.5	31.0	7.0	17.5
Regina, Sask.	30.5	34.5	6.0	21.5
Saskatoon, Sask.	32.5	36.5	6.0	23.5
Edmonton, Alta.	30.5	34.0	5.0	22.5
Calgary, Alta.	27.0	30.5	5.0	19.0
Vancover, B.C.	28.0	31.0	7.0	24.0
Montreal, Que.	23.5	26.5	6.0	15.0
St. John, N.B.	27.0	31.0	7.0	22.0
Halifax, N.S.	26.0	30.0	6.0	22.0

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero.
	Tank truck†	Posted retail	Incl'ds tax	tank wagon
Fresno	19.5	18.5	4.0	17.0
San Francisco	19.0	18.0	4.0	15.5
Los Angeles	18.5	17.5	4.0	15.5
Reno, Nev.	23.0	22.0	5.0	19.0
Portland, Ore.	16.9	15.9	5.0	16.5
Seattle, Wash.	17.9	16.9	6.0	16.5
Tacoma	17.9	16.9	6.0	16.5
Spokane	20.9	19.9	6.0	20.5
Phoenix, Ariz.	19.5	21.5	6.0	20.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Pittsburgh, Pa.	16.5	17.5	4.0	10.0
Philadelphia	16.0	17.0	4.0	10.0
Scranton	16.5	17.5	4.0	10.0
Allentown	16.5	17.5	4.0	10.0
Altoona	16.5	17.5	4.0	10.0
Erie	16.5	17.5	4.0	10.0
Dover, Del.	16.5	17.5	4.0	10.0
Wilmington	16.5	17.5	4.0	9.0
Springf'd, Mass.	16.5	17.5	4.0	8.0
Worcester	16.5	17.5	4.0	8.0
Boston	15.5	16.5	4.0	8.0
Providence, R.I.	14.5	15.5	3.0	8.0
Hartford, Conn.	15.5	16.5	3.0	8.0
New Haven	15.5	16.5	3.0	8.0

Discount schedule effective November 1, 1932. In Delaware and Pennsylvania, 2 cents off station price on purchases of 2,000 gallons or more per month, in remainder of territory 1 cent. Wholesale discount 2½ cents per gallon on monthly deliveries of 20,000 to 100,000 gallons, 3 cents on 100,000 to 300,000 and 3½ cents on more than 300,000 gallons.

TANK WAGON CHANGES

Standard Oil Co. of Louisiana, effective November 30, reduced gasoline tank wagon and service station prices one-half cent at Baton Rouge and Shreveport, La.

Standard Oil Co. (Indiana), effective November 29, advanced gasoline tank wagon and service station prices one-half cent at normal points and 1 cent at cut price points.

Standard Oil Co. of Kentucky, effective December 1, advanced gasoline tank wagon and service station prices 1 cent at Pensacola, Fla.; effective November 26, reduced gasoline tank wagon and service station prices at Vicksburg, Miss.; effective November 28, kerosene tank wagon price at Jacksonville, Fla., reduced to 12 cents.

CRUDE OIL PRICE CHANGES

Deep Rock Oil & Refining Co., effective December 1 in Oklahoma, resumed the Stanolind Crude Oil Purchasing Co.'s price schedule, beginning at 76 cents for oil below 29 degrees gravity, and adding 2 cents for each degree upward to 40 degrees and above at $1.

Effective December 1, the Pure Oil Co. announced it would pay in the Gulf Coast fields 60 cents for oil below 20 degrees; 70 cents for 20 to 24.9 degrees; 80 cents for 25 degrees, adding 1 cent for each full degree upward to 35 degrees and over at 91 cents.

Effective December 1, the Producers Pipe Line Co. raised the price of Central Michigan oil 5 cents per barrel, making its new price 90 cents per barrel. The company gathers oil in the East Midland Field, its pipe line running to Bradley, Mich., where it has a loading rack.

The Humble Oil & Refining Co. announced that effective December 1 it would pay for 100 per cent of its oil runs in North and Central Texas and West Texas, but would continue buying 60 per cent and storing 40 per cent in the East Texas and Panhandle Fields.

NEW OIL BOARD ADVISOR

WASHINGTON, D. C., Dec. 5.—Secretary Ray Lyman Wilbur, of the Department of the Interior, as chairman of the Federal Oil Conservation Board, has announced the appointment of Commander Thomas Moran, the acting director of naval petroleum and oil shale reserves of the Navy Department, as a member of the technical and advisory committee of the Oil Board, vice the late Rear Admiral Frank T. Chambers.

The membership of the oil board's technical and advisory committee now consists of Northcutt Ely, assistant to the Secretary of the Interior, chairman; Commander Thomas Moran, Navy Department; Maj. Gen. Lytle Brown, War Department; Scott Turner, director, Bureau of Mines; and Ralph W. Richard, Geological Survey (Department of the Interior).

NATURAL GASOLINE MANUFACTURE

Midland to Build Gasoline Plant in New Conroe Field

HOUSTON, Tex., Dec. 3.—Midland Gasoline Corp. is dismantling its Coleman, Tex., plant and is moving the absorption equipment to the Conroe Field, Gulf Coast. Compressors at Coleman will not be moved at this time as the Conroe installation will be able to operate from well pressures.

Installation of the plant at Conroe is expected to be completed soon after January 1. It will be the first gasoline plant for the field. Capacity of the equipment is 20,000,000 feet daily, of which approximately 10,000,000 daily already has been contracted. The average gas-oil ratio at Conroe is around 1,000 feet per barrel and under the present proration allowable of 400 bbls. daily there is approximately 400,000 feet of gas available per well. There now are 70 wells in the field. The gas has a recovery of 1¼ gallons per 1,000 feet.

Location of the plant is in the south part of the I.&G.N. Survey on Houston Oil Co.-Tidal Oil Co. and Rutherford-Hooper Oil Co.'s Hooper leases. Laying of gathering lines already is under way. The equipment, manufactured by the Engineering Research & Equipment Co., will be moved and set up under the direction of R. H. Turner, engineer for that company, and F. C. Nickel, president of the Midland Gasoline Corp.

The firm of Hanlon-Buchanan, Inc., has contracted for the marketing of products from the plant, which, on the basis of 1¼ gallons per 1,000 feet, from 10,000,000 feet, will have a daily output of 12,500 gallons.

Additional plants may be built in the Conroe Field within the next few months provided the field continues to expand in area. While the volume of gas accompanying the production of crude oil is not large, it now appears there will be a large number of wells completed and gasoline manufacturers will be justified in building recovery units. The low prices which have prevailed for natural gasoline over the past year is a factor which will deter certain companies with production in the field from building the recovery plants at this time. With a substantial recovery in prices their attitude will change.

The present development in the Conroe Field started several months ago following the discovery of production in a wildcat well. Wells are producing at depths ranging from 3,800 to 5,000 feet. There are now 58 producing wells exclusive of two gassers. On a proration basis these wells are permitted to produce 16,000 bbls. of crude oil daily. Some trouble has been experienced recently in maintaining the proration basis of operation. There are now approximately 40 wells drilling.

There are a large number of operators in the field some of them having small tracts. The Humble Oil & Refining Co. is the largest single operator in the field. The Tidal Oil Co. is second due to its recent purchases of large tracts within the producing areas.

BUILD BLENDING PLANT

C. J. Tucker of the Tucker Oil Co., Wichita Falls, Tex., has constructed a 100-bbl. skimming and blending plant in the Northwest Field of Wichita County where he has 200 wells. Throughput of the plant will be in the neighborhood of 20 bbls. per day which will be blended with natural gasoline from his plant, the blended product to be used in engines which are pumping and producing his leases.

Output in California Continues to Show Decrease With Reduction in Stocks

Daily average natural gasoline production in California, according to the latest report of the Bureau of Mines, decreased from 33,596 bbls. in September to 33,135 bbls. in October, while daily average refinery utilization increased from 28,693 bbls. to 29,327 bbls. Shipments increased from 2,804 bbls. to 3,839 bbls. daily. Stocks again decreased and amounted to 2,700,031 bbls., a daily average decrease of 2,265 bbls.

Among the several fields in California Kettleman Hills continued to lead in October although its production showed a substantial decrease from September while several other fields showed increases. The Kettleman Hills production totaled 10,212,472 gallons in September but decreased in October despite the one additional day to 9,447,754 gallons. Plants in the Santa Fe Springs area, however, increased from 7,769,163 gallons in September to 8,433,170 gallons in October. The Long Beach Field which is third in the State in natural gasoline output produced 7,986,118 gallons in October which compares with 8,035,606 gallons in September. Huntington Beach, Seal Beach and Ventura Avenue plants considered as fields also showed increases in October when compared with September.

In regard to gasoline content of the gas treated in the several fields of California it is interesting to note that while the yield of the plants in Kettleman Hills Field is only slightly in excess of 1 gallon per 1,000 cubic feet that of Long Beach and Huntington Beach is in excess of 2 gallons per 1,000 cubic feet. The gasoline content of the gas in the Ventura Avenue Field is approximately 1 gallon per 1,000 cubic feet of gas.

Natural gasoline produced by the compression method continues to decrease in importance and totaled only 139,091 gallons out of a total of 43,003,307 gallons. The gasoline yield with the compression method is less than 1 gallon per 1,000 cubic feet of gas.

Daily average production of liquefied petroleum gases decreased from 401 bbls. in September to 387 bbls. in October and daily average sales decreased from 378 bbls. to 366 bbls. The following tables summarize the California production, demand and stocks of natural gasoline for October and September:

CALIFORNIA NATURAL GASOLINE STATISTICS, SEPTEMBER AND OCTOBER
(Daily average in barrels)

	Sept.	Oct.
Supply		
Total production	33,997	33,522
Stock trans. (deliv.) receipts—net	(1,389)	(943)
Total	32,608	32,579
Deduct refinery requirements:		
Runs to stills	2,685	2,724
Blended	26,008	26,603
Total	28,693	29,327
Gains (losses) unaccounted for—net	(4,126)	(1,269)
Net supply available to market	(211)	1,983
Demand		
Domestic consumption inc. bunkers	378	409
Off shore shipments:		
Pacific foreign exports	392	751
Intercoastal shipments	2,404	3,080
Rail and truck shipments to U. S. points outside Pac. Coast territory	8	8
Total market demand	3,182	4,248
Surplus or (deficit)	(3,393)	(2,265)
Stocks—Last Day of Period		
Total stocks	2,770,254	2,700,031
Inside Pac. Coast terr.:		
At refineries	2,264,946	2,113,905
Elsewhere	505,308	586,126
Inside Pac. Coast terr.—last day	2,770,254	2,700,031
Inside Pac. Coast terr.—first day	2,872,055	2,770,254
Increase or (decrease) during period	(101,801)	(70,223)
OPERATING DATA		
Number of plants operating	105	104
Daily capacity in thousands of cu. ft.	2,520,257	2,566,957

Operations of natural gasoline plants in California during September and October are shown in the accompanying table.

PHILLIPS GETS ORDER

The Phillips Petroleum Co., largest producers of natural gasoline, has signed a contract with the Air Express Corp. to supply the corporation's entire requirements of 80 octane aviation gasoline. The gasoline will be ethylized to secure a uniform antiknock rating. The Air Express Corp. will operate an overnight express service between New York and Los Angeles.

PRODUCTION BY FIELDS

	October		September	
	Gas treated (thousand cu. ft.)	Nat. gasoline produced (gallons)	Gas treated (thousand cu. ft.)	Nat. gasoline produced (gallons)
Fullerton and Whittier	522,755	1,273,545	522,256	1,304,971
Midway	1,638,187	2,792,125	1,755,449	2,997,071
Huntington Beach	1,059,286	2,240,827	422,153	1,369,735
Kettleman Hills	7,399,081	9,447,754	7,225,078	10,212,472
Long Beach	3,348,670	7,986,118	3,341,154	8,035,606
Richfield	366,342	435,326	372,686	457,259
Santa Fe Springs	5,475,879	8,433,170	5,127,151	7,769,163
Seal Beach	557,451	953,707	515,000	910,070
Ventura Avenue	3,283,518	3,205,758	2,917,651	2,973,330
All other fields	4,015,103	6,374,068	3,862,801	6,300,611
Total	27,666,772	43,142,398	26,061,379	42,330,288

PRODUCTION BY METHODS

Type of plant—	Gas treated M.C.F.	Natural gasoline produced (gallons)	Gasoline recovery per M.C.F. gas treated	Gas treated M.C.F.	Natural gasoline produced (gallons)	Gasoline recovery per M.C.F. gas treated
Oil absorption	27,523,430	43,003,307	1.562	25,887,068	42,134,346	1.678
Compressor	143,342	139,091	.970	174,311	195,942	1.124
Total	27,666,772	43,142,398	1.559	26,061,379	42,330,288	1.624

Finished gasoline produced at plants ..... 218 barrels

Stocks—	October		September	
	Gallons	Barrels	Gallons	Barrels
Natural gasoline held by plant operators	2,771,824	65,996	2,267,907	53,998
Natural gasoline held by refineries	110,629,470	2,634,035	114,082,752	2,716,256
	113,401,294	2,700,031	116,350,659	2,770,254

Important Hearing Opens December 12 at Amarillo, Texas

Natural gasoline manufacturers in the Panhandle area of Texas are directly interested in the hearing to be held at Amarillo, Tex., on December 12 by the Texas Railroad Commission. The hearing is concerned with the production of gas in the oil and gas fields of that section. Previous hearings have been held over the past two years and some rulings have been promulgated but the entire matter is to be opened again and all factions are to be heard at the Amarillo hearing.

N. D. Bartlett of the Amarillo Globe has the following explanation of the hearing:

"The interests to be represented at the hearing are many and divergent. There are the major pipe line companies piping the gas to out-of-state markets, obtaining their gas from their own wells with a control on the legal market and maintaining their right to do so without sharing their market with others.

"Opposed to these are the independent operators who own gas acreage and producing wells in the so-called sweet gas area who demand a portion of the market controlled by the major pipe line companies to prevent threatened complete drainage of their properties. There are the interests of those who are using the gas from high oil-gas ratio oil wells for the manufacture of casinghead gasoline, the residue of which is partially used in the manufacture of carbon black. They will make a strong plea to retain their business and protect their investments.

"Then there are the so-called sour gas owners, operators and landowners having production and potential production in the area to the north of the sweet gas area with gas of such a sulphur content that it is unfit for heat or light use and who will ask for protection of property rights in the production of their gas for any market they can obtain other than for light and heat.

"All these conflicting interests must be heard and weighed carfully by the State Railroad Commission with the legal status of each and the interests of the State of Texas as a whole entering into their decision and disposition of each case. Through repeated hearings for the past two years the commission has come to a very comprehensive understanding of the situation and can be expected to deal with equity and fairness to all in so far as it is possible."

Imports Into Canada Show Large Increase in August

Natural gasoline imported into Canada during the month of August amounted to 1,728,632 gallons as compared with 1,444,396 gallons in July, according to latest government reports. Importations of other gasolines amounted to 6,588,549 gallons in August, a large decrease when compared with the 9,015,914 gallons imported in July.

Canada is one of the largest buyers of natural gasoline and its purchases this year are only slightly less than in 1931 when the imports totaled 32,140,805 gallons. One of the reasons for the purchases by Canadian refiners and blenders is the fact that natural gasolines above 80 A.P.I. gravity at 60 degrees temperature are not subject to the import tax of 2½ cents levied against the ordinary grades of motor fuels. In order to enter Canada duty free, the natural gasolines must be blended with other gasolines refined in Canada.

NEWS FOR PETROLEUM REFINERS

Organize Company at Hutchinson to Take Over Plant

The Sunshine Refining Corp. is being organized at Hutchinson, Kans., to take over a refinery located at that point. The refinery, which has been shut down for several years, has a crude oil capacity of 3,000 bbls. daily with one cracking unit. The latter is the Trumbull design and has a capacity of 750 bbls. daily.

Three crude oil producing companies will be interested in the operation of the plant. These companies are the Darby Petroleum Co., Tulsa; Western Petroleum Exploration Co., and Slick, Pryor & Lockhart, Wichita, Kans. These companies have proven production properties in Rice and Ellsworth Counties of Kansas. Part of the properties are about 50 miles from the refinery.

The refinery at Hutchinson is being reconditioned and it is expected that it will be placed in operation before the end of the month. The initial operation will be between 2,000 and 3,000 bbls. daily. It is said that the decision to operate the plant was due to the inability to secure outlets for crude oil. The personnel of the Sunshine corporation which will operate the refinery will be announced within a few days.

It is reported that a large part of the output of the refinery will be marketed through the Beach Oil Co. of Abilene, Kans., an affiliated organization. The concern markets in northern Kansas and southern Nebraska. Part of the fuel oil output has been contracted by the Missouri Pacific Railroad.

To End Receivership of Cosden Oil Company Soon

Reorganization of the Cosden Oil Co. has been completed and it is now planned to lift the receivership about January 1. J. S. Cosden, founder of the company, will head the new organization.

The Cosden company was placed in the hands of a receiver in November, 1930, when it was unable to meet current obligations. In March this year a reorganization plan was sponsored by a committee headed by Mr. Cosden. The plan provided for a recapitalization and under its holders of secured claims would receive first mortgage 6 per cent bonds of the reorganized company in settlement; holders of unsecured claims would be paid off with general lien five-year 6 per cent bonds and holders of the preferred and common stocks would receive corresponding shares in the readjusted company in a share-for-share exchange.

The company operates a refinery at Big Spring, Tex. It was recently announced that improvements costing $300,000 would be added to the plant in a modernization program. George Moore has had charge of operations as receiver. He was formerly a vice president of the company.

AWARDED JAPANESE CONTRACT

LOS ANGELES, Calif., Dec. 3.—The Hancock Oil Co., with a refinery at Long Beach, Calif., has been awarded a fuel oil contract by Mitsui & Co., Japanese financial trade organization which controls a large fleet of merchant vessels plying between Japan and the United States. The contract is for 750,000 bbls. of fuel oil. The oil will be delivered at the Hancock terminal at Long Beach. The Hancock company had a similar contract this year.

Refiners Giving Attention to Widening Demand for Lubricated Gasolines

CHICAGO, Dec. 3.—While not all of the oil companies are convinced of the reported merits of gasolines containing nonviscuous lubricants, tests made by those companies which are introducing "double purpose" motor fuels reveal several advantages in top cylinder lubrication. It is generally agreed that in the case of new automobiles with stiff motors, and during weather in which considerable choking is required to start the engine, the introduction of a light lubricant with the gasoline is beneficial. Tests conducted by Pure Oil Co. with a 1932 model Hupmobile, a 1931 model Chrysler and a 1930 model Packard, in which the auotmobiles were run 10,000 miles with gasoline containing a light nonviscuous neutral oil in the proportion of 50 gallons of lubricant to 8,000 gallons of gasoline, showed that not only were the advantages of top cylinder and exhaust valve lubrication accruing, but also the mileage was increased by as much as 3 miles a gallon. It is pointed out that the factory setting of carbureters is usually too high, and the presence of the lubricant in the gasoline increases the body of the gasoline thus reducing the ratio of gasoline to air in the carbureter. Carbon deposition in the manifold and on the spark plug points, contrary to expectations, was practically negligible. Sticky exhaust valves were not encountered.

One important fact in connection with the addition of the neutral oil to the gasoline is the raising of the endpoint of the gasoline. It is understood that Standard Oil Co. of Ohio adds the lubricant in the proportion of 75 gallons of lubricant to 8,000 gallons of gasoline; Pure Oil adds 50 gallons of lubricant to 8,000 gallons of gasoline, and Pocahontas and Hickok of Cleveland and Detroit, respectively, add 32 gallons of lubricant to 8,000 gallons of gasoline. It is estimated that the addition of 75 gallons of neutral oil to a 400° endpoint gasoline raises the endpoint to something between 418° and 423°, while the addition of 50 gallons raises the endpoint to between 410° and 415°. To obtain a 400° endpoint gasoline, therefore, the gasoline stock should be around 385° endpoint.

One large jobber in Cleveland is reported to have increased its gasoline sales 40 per cent with a lubricated gasoline. Another big jobber is said to also have a large increase in gallonage.

Standard Oil Co. of New Jersey markets Kotol, in 6-ounce packages, as a top cylinder lubricant to be added to gasoline. This is understood to be a technical white oil. Standard Oil Co. (Indiana) sells Finol for the same purpose. Gulf Refining Co. calls its top cylinder lubricant, which is sold separately, Toplub. Empire Oil & Refining Co. names its material Cisco Pep. Other companies sell similar lubricants in small packages, and one of these, Shell Petroleum Corp., sells the material off the tank wagon at 80 cents a gallon. Certain companies, especially in the East, market a halogenated product, halowax, but there is some doubt whether the addition of this type of top cylinder lubricant will be permitted in Ethyl Gasoline. Sulphur monochloride is also added. This is better known in connection with extreme pressure lubricants. Whether or not this material performs its lubricating function without breaking down under the high temperature is not revealed.

It is admitted that the problem of top cylinder lubrication may not be solved by the addition of neutral oils to the gasoline. However, this is considered a step in the right direction, although the final solution may be a chemical product outside of petroleum. The problem is to find a nonviscuous material which will retain its lubricating qualities under conditions of extreme heat and pressure.

Greater Use of Naturals

Specifications for gasolines marketed in Ohio, where the current top cylinder lubrication movement began, indicate that much greater use is being made of natural gasoline and other light fractions. The octane ratings of the gasoline have also been raised. It is interesting to note that the specifications of the various regular and Ethyl Gasolines sold in Ohio are practically identical. The following characteristics are representative of the gasolines sold by three of the larger Ohio marketers:

REGULAR GASOLINE

Initial	85
12 per cent	135
32 per cent	150
53 per cent	250
92 per cent	375
Endpoint	410
Gravity	60.5
Vapor pressure	12.5
Cu. dish gum	30 mg.
Octane number	72

ETHYL GASOLINE

Initial	87
14 per cent	142
55 per cent	232
92 per cent	324
Endpoint	380
Vapor pressure	12.0
Cu. dish gum	25 mg.
Octane number	78

These are without the addition of the top cylinder lubricant which has a viscosity ranging from 85 to 100 at 100°.

TO BUILD IN MEXICO

The Richmond Petroleum Co., a Mexican subsidiary of the Standard Oil Co. of California, is reported to be completing plans for the construction of a refinery across the bay from Puerto, Mexico. The validity of titles are now being established.

The Richmond organization holds considerable land in the Tehuantepec Field, adjacent to Puerto, Mexico, Choapa and Minatitlan and Tabasco, where it expects to begin drilling for production if the Supreme Court hands down a decision favorable to it in the matter of certain disputed titles.

COMPLETING McNUTT REFINERY

The McNutt Refining Co.'s plant at El Paso, Tex., will be completed and oil started moving to it by December 15. Oil from the Grand Falls area, southern Ward County, will be piped to loading rack on the T. & P. Railroad at Wickett, from which point it will be transported by tank car to the refinery at El Paso.

BUILD PLANT IN SEMINOLE

W. L. Clay and E. E. Peveto are building a small skimming plant on the Rock Island right of way at Seminole, Okla. The plant will operate with crude oil from the Seminole pools.

Associated Oil to Spend Six Million During Coming Year

The Associated Oil Co., according to present plans, will spend $6,000,000 during 1933 for the purchase and installation of new equipment including the reconditioning of facilities now in use according to an announcement by William F. Humphrey, president of the company. The announcement was made to the Industrial Rehabilitation Committee of the Twelfth Federal Reserve District with headquarters in San Francisco.

The details of the $6,000,000 expenditure have not been announced but it is known it will include improvements at Associated's refineries located at Avon, in the San Francisco Bay region and Watson in the Los Angeles Basin. The Avon refinery is complete in its operations and Watson plant has skimming and cracking equipment.

Distributing facilities will be expanded as will the automotive, pipe line and marine departments. The company at present is operating a fleet of 700 motor vehicles.

Indiana Standard Takes Over Neodesha Refinery

WICHITA, Kans., Dec. 2.—The refinery at Neodesha, Kans., which was built and operated for many years by the Standard Oil Co. of Kansas was formally turned over to the Standard Oil Co. (Indiana) today, marking the consummation of a sale announced several weeks ago. At the same time, the Kansas company was dissolved and a new company formed, to be known as the Standard Oil Co. of Kansas, a Delaware corporation. This company has taken over the producing properties of the former Kansas company and will operate in the Mid-Continent and Gulf Coast fields. The company expects to continue active as a producing company.

The Neodesha refinery will now become one of the Standard Oil Co. (Indiana) refineries and will be operated under the general management of the Chicago headquarters of the company. The refinery has a crude oil capacity of 20,000 bbls. daily with cracking facilities. Recently it has been running around 6,000 bbls. of crude oil daily. The Indiana Standard paid $3,500,000 for the refinery and a pipe line system connecting to Kansas fields. The refinery was recently improved with the installation of a new cracking unit and reconditioning of old equipment.

The Indiana company will use the Neodesha refinery to supply gasoline and other products for its distributing facilities in parts of Kansas, Missouri and Oklahoma. The company for several years purchased most of the refinery output based on long-time contracts.

REOPEN BRITISH REFINERY

NEW YORK, Dec. 3.—Reports from England this week announce the resumption of operations by the Killingholme refinery, the only Gyro vapor phase cracking plant in England. The refinery, originally built by Petroleum Refineries, Ltd., has been closed down some time, and was recently acquired by Hayton Refineries (132), Ltd. The new company will specialize in the manufacture of a high antiknock blending stock, for use in improving motor fuels and bitumen, and will not enter the general refined products market in the United Kingdom.

Announcement

ARTHUR G. McKEE & COMPANY
CLEVELAND, OHIO
Designers, Engineers and Contractors

and

STRUTHERS WELLS -TITUSVILLE CORP.
WARREN, PENNSYLVANIA
Manufacturers of Oil Refinery Equipment

An association has been effected between the above companies whereby their combined services are now made available to the Oil Refining industry as Designers, Engineers, Contractors and Manufacturers.

No change in individual identity or ownership is involved, but this arrangement enables the two companies to closely co-operate in the construction of complete refineries and centralizes the responsibility for design, materials and performance. Each company is in a unique position to assist and supplement the other in new developments and methods.

Arthur G. McKee & Company
2422 Euclid Avenue
CLEVELAND, OHIO
LONDON, ENGLAND

Struthers Wells-Titusville Corporation
Plants:
WARREN, PA.
TITUSVILLE, PA.

Refineries in East Texas Cause Increase in Mid-Continent

(Continued from Page 11)

REFINERY OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs December	Average daily runs November
Altitude Petroleum Corp., Oklahoma City	3,000	600	600
Anderson-Prichard Oil Corp., Cyril	5,000	3,900	3,100
Associated Petroleum Corp., Allen	3,000	(*)	(*)
Barnsdall Refineries, Inc., Barnsdall	6,000	4,000	3,000
Barnsdall Refineries, Inc., Okmulgee	10,000	6,000	3,500
Bell Oil & Gas Co., Grandfield	4,500	2,200	2,000
Black Gold Refining Co., Oklahoma City	1,500	700	750
Capital City Refining Co., Oklahoma City	2,500	(*)	(*)
Century Petroleum Co., Tulsa	500	(*)	(*)
Century Petroleum Co., Oklahoma City	2,500	450	500
Champlin Refining Co., Enid	16,000	7,000	7,000
Continental Oil Co., Sapulpa	10,000	(*)	(*)
Continental Oil Co., Ponca City	30,000	10,500	9,000
Cushing Refining & Gasoline Co., Blackwell	1,500	1,500	1,500
Cushing Refining & Gasoline Co., Cushing	3,500	2,500	2,500
Deep Rock Oil Corp., Cushing	10,000	10,000	10,000
Eason Oil Co., Enid	5,000	2,600	3,000
Empire Oil & Refining Co., Okmulgee	4,000	2,300	2,500
Empire Oil & Refining Co., Ponca City	12,000	7,000	6,800
Firestone Refining Co., Oklahoma City	200	(*)	(*)
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	1,200	2,000
Globe Oil & Refining Co., Blackwell	7,500	5,000	6,500
Gulf States Oil Corp., Oklahoma City	3,500	(*)	(*)
Johnson Oil Refining Co., Cleveland	6,000	4,000	4,000
Major Oil Co., Oklahoma City	2,000	(*)	200
Mid-Continent Petroleum Corp., West Tulsa	40,000	17,000	17,000
Marathon Oil Co., Boynton	2,500	(*)	(*)
Marathon Oil Co., Bristow	5,000	(*)	(*)
Phillips Petroleum Co., Okmulgee	5,000	3,500	3,500
Producers Oil Co., Bristow	2,500	1,000	1,000
Producers & Refiners Corp., West Tulsa	6,000	3,000	3,000
Pure Oil Co., Ardmore	5,000	1,200	1,200
Pure Oil Co., Muskogee	9,000	7,000	7,000
Rock Island Refining Co., Beckett	5,000	4,900	4,700
Sinclair Refining Co., Sand Springs	8,000	2,300	2,300
Speedway Gasoline Refining Co., Oklahoma City	400	(*)	200
Sterling Refining Co., Oklahoma City	2,000	700	500
Sun Oil Co., Yale	5,000	2,500	2,500
Sunray Oil Co. (C. E. Wright, receiver), Allen	7,000	1,200	1,500
The Texas Company, West Tulsa	15,000	9,000	4,000
Texas Pacific Coal & Oil Co., Wynnewood	3,000	1,500	1,500
Tidal Refining Co., Drumright	15,000	7,000	8,000
Western Oil Corp., Beckett	2,000	(*)	500
Wilcox Oil & Gas Co., Bristow	5,000	2,300	2,500
Wirt Franklin Petroleum Corp., Ardmore	4,000	1,800	2,200
Yale Oil Corp., Yale	2,000	350	400
York Refining Co., Oklahoma City	3,000	(*)	(*)
Total	309,900	137,700	132,950

*Shut down.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs December	Average daily runs November
Allstate Refining Co., Thrall	3,000	400	400
American Refining Properties, Wichita Falls	6,000	(*)	(*)
Archer Refining Co., Megargel	1,500	400	350
Atlantic, Pacific and Gulf Refining Co., Wichita Falls	5,000	100	250
Bobrose Oil & Refineries, Brownwood	2,000	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	4,000	2,600
Dale Oil & Refining Co., Electra	4,000	(*)	(*)
Dixon Creek Oil & Refining Co., Kings Mill	3,500	750	1,500
Empire Oil & Refining Co., Gainesville	5,000	2,300	2,500
Exchange Petroleum Corp., Albany	500	300	200
Falls Refining Co., Wichita Falls	2,000	750	500
Gratex Refining Co., Graham	500	120	150
Gulf Refining Co., Fort Worth	10,000	6,000	6,000
Humble Oil & Refining Co., Beckenridge	2,000	(*)	(*)
Humble Oil & Refining Co., Chilton	4,000	(*)	(*)
Humble Oil & Refining Co., Neches	5,000	1,850	1,800
Iowa Park Producing & Refining Co., Iowa Park	2,500	(*)	(*)
Kent Refining Co., Minerva	2,000	325	340
Kent Refining Co., Angus	4,000	(*)	(*)
LaSalle Petroleum Co., Burkburnett	3,500	225	300
Macmillan Petroleum Co., Isom	4,000	(*)	(*)
Magnolia Petroleum Co., Fort Worth, No. 1	12,000	4,800	5,500
Magnolia Petroleum Co., Fort Worth, No. 2	6,000	(*)	(*)
Magnolia Petroleum Co., Corsicana	5,000	4,380	4,000
Marathon Oil Co., Fort Worth	5,000	4,200	4,000
Moon Refining Co., Graham	300	55	50
Muenster Refining Co., Muenster	300	(*)	(*)
Olney Oil & Refining Co., Olney	3,500	1,650	2,000
Oriental Oil Co., Dallas	5,000	1,100	1,500
Panhandle Refining Co., Wichita Falls	5,000	2,000	1,500
Petroleum Refractionating Co., Pampa	6,500	5,200	5,500
Phillips Petroleum Co., Isom	18,000	17,500	17,000
Phoenix Refining Co., Inc., Dallas	3,000	500	600
Pilot Point Refining Co., Pilot Point	500	200	200
Primrose Refining Co., Wichita Falls	3,500	(*)	(*)
Shamrock Oil Co., Sunray	4,000	350	600
Sinclair Refining Co., Fort Worth	5,000	3,000	2,500
Simms Oil Co., West Dallas	4,500	3,000	3,000
Southland Refining Co., Olney	1,000	100	100
Star Refining & Producing Co., Fort Worth	1,500	750	750
Taylor Refining Co., Taylor	6,000	1,500	1,500
Taxman Refining Co., Wichita Falls	3,000	3,000	3,200
The Texas Company, Dallas	16,000	11,000	12,000
The Texas Company, Amarillo	4,000	2,000	2,500
Texas Pacific Coal & Oil Co., Fort Worth	3,000	4,500	2,000
Texas Pacific Coal & Oil Co., Caddo	1,000	500	600
Waggoner Refining Co., Electra	3,400	2,500	2,500
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	(*)	(*)
Young Refining Co., Archer City	250	(*)	(*)
Total	210,300	88,335	89,790

*Shut down.

REFINERY OPERATIONS IN KANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs December	Average daily runs November
Altitude Petroleum Corp., Chanute	5,000	(†)	(†)
Altitude Petroleum Corp., Kansas City, Mo.	3,000	1,500	500
Barnsdall Refineries, Inc., Wichita	4,000	(*)	2,500
Derby Oil Co., Wichita	7,500	4,000	4,000
Eldorado Refining Co., Eldorado	4,500	2,700	2,800
Golden Rule Refining Co., Wichita	1,500	900	900
Kanotex Refining Co., Arkansas City	12,000	4,000	4,200
National Refining Co., Coffeyville	6,500	5,000	5,000
Phillips Petroleum Co., Kansas City	7,500	7,500	7,000
Shell Petroleum Corp., Arkansas City	22,000	10,000	10,000
Sinclair Refining Co., Coffeyville	12,000	10,000	10,000
Sinclair Refining Co., Argentine	2,500	(*)	(*)
Skelly Oil Co., Eldorado	23,000	11,000	11,500
Standard Oil Co. of Kansas, Neodesha	20,000	6,000	6,000
Vickers Petroleum Co., Potwin	2,500	2,000	2,000
White Eagle Oil Corp., Augusta	15,000	13,000	14,000
Total	156,500	77,600	80,400

*Shut down. †Operating cracking stills.

REFINERY OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs December	Average daily runs November
Berry Asphalt Co., Waterloo	2,000	(*)	1,000
Henry H. Cross Co., Smackover	6,000	4,000	4,000
Houston Oil Co., Camden	6,000	(*)	(*)
Kettle Creek Refining Co., Pearson	5,000	1,500	1,500
Lion Oil & Refining Co., El Dorado	12,000	5,500	5,000
Macmillan Petroleum Products, Co., Norphlet	2,000	1,800	1,850
Ouachita Valley Refining Co., El Dorado	2,000	1,000	1,200
Root Refining Co., El Dorado	10,000	2,500	2,500
Simms Oil Co., Smackover	3,000	2,500	2,500
Union Asphalt Co., El Dorado†	.....	.....	.....
Total	48,000	18,800	19,550

*Shut down. †Reduces residuum purchased from Lion Oil & Refining Co., no crude run.

REFINERY OPERATIONS IN WEST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs December	Average daily runs November
Bluebonnett Oil Refining Co., Wickett	5,000	100	100
Bobrose Oil & Refineries, Luling	2,500	1,200	1,500
Burford Oil Co., Pecos City	6,000	3,000	(*)
Coltex Refining Co., Colorado	10,000	5,800	5,800
Concho Refining Co., San Angelo	500	75	300
Cosden Oil Co., Big Spring	15,000	4,500	5,000
Pantex Refining Co., Echo	400	100	100
Grayburg Oil Co., San Antonio	6,000	600	700
Great West Refining Co., Big Spring	8,500	(*)	(*)
Gulf Refining Co., Sweetwater	5,000	3,000	3,000
Howard County Refining Co.	2,500	(*)	(*)
Humble Oil & Refining Co., San Antonio	5,000	1,300	1,300
Humble Oil & Refining Co., McCamey	15,000	(*)	(*)
Magnolia Petroleum Co., Luling	7,000	4,620	4,300
Marathon Oil Co., Del Rio	5,000	1,500	1,500
Mentone Oil & Refining Co., Mentone	300	100	100
Misko Refineries, Inc., Laredo	1,500	800	800
Octane Refining Co., Beard	2,000	1,300	1,000
Paramount Refining Co., San Angelo	1,500	100	500
Pasotex Petroleum Co., El Paso	14,000	5,000	3,000
Phoenix Refining Co., Pettus	800	600	600
Pioneer Oil & Refining Co., Somerset	1,500	850	900
Richardson Refining Co., Big Spring	6,000	(*)	(*)
Rio Grande Oil Co., El Paso	6,000	700	800
Signal Gasoline Co., Texon	500	(*)	(*)
The Texas Company, San Antonio	3,000	1,000	2,500
The Texas Company, El Paso	2,000	800	800
Tonkawa Petroleum Co., Pyote	5,000	(*)	(*)
Texas Mexican Oil & Refining Co., Laredo	600	400	400
Texas Petroleum Products Co., Somerset	1,500	400	400
Wickett Refining Co., Wickett	2,500	400	400
White Star Refining Co., Cisco	500	200	100
Total	143,100	38,145	35,700

*Shut down.

REFINERY OPERATIONS IN NORTH LOUISIANA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Average daily runs December	Average daily runs November
Bayou State Refining Co., Hosston	750	200	200
Cedar Grove Refining Co., Shreveport	750	750	750
Louisiana Oil Refining Co., Shreveport, Bossier	19,000	16,000	17,000
Spartan Refining Co., Shreveport	10,000	6,000	6,000
Stanolind Oil & Gas Co., Superior	3,500	2,000	2,000
The Texas Company, Shreveport	7,000	(*)	(*)
Total	41,000	24,950	25,950

*Shut down.

ROCKY MOUNTAIN RUNS

Average daily pipe line runs from fields in the Rocky Mountain territory for the week ending December 3 follow:

	Bbls.
WYOMING	
Salt Creek	21,960
Big Muddy	1,850
Badger Basin	50
Byron-Garland	0
Byron (East)	80
Dallas-Derby	480
Dutton Creek	60
Elk Basin	610
Ferris	20
Frannie	330
Grass Creek	1,770
Greybull	10
Hamilton Dome	800
Hudson	380
LaBarge	1,220
Lance Creek	110
Lost Soldier	2,010
Midway	90
Oregon Basin	700
Osage	1,040
Pilot Butte	30
Rock River	1,010
Poison Spider	70
Teapot	20
Total Wyoming	34,700
MONTANA	
Buckley-Border	570
Cat Creek	820
Cut Bank	80
Dry Creek	90
Kevin-Sunburst	3,250
Lake Basin	50
Pondera	920
Total Montana	5,780
COLORADO	
Florence	420
Fort Collins and Wellington	800
Iles Dome	570
Moffat	640
Orchard	170
Rangely	100
Tow Creek	270
Total Colorado	2,970
NEW MEXICO	
Artesia	499
Caprock	558
Hogback	390
Jal	1,002
Rattlesnake	750
Table Mesa	70
Eunice	570
Hobbs	24,978
Lea	2,236
Texas-Pacific	94
Total New Mexico	31,117
Total Rocky Mountain area	74,567
Total previous week	74,911
Difference	344

DALLAS GEOLOGISTS ELECT

DALLAS, Tex., Dec. 5.—Leonard W. Orynski of the California Co. was elected chairman of the Dallas Petroleum Geologists to succeed Angus McLeod of the Shell Petroleum Corp., at the annual election of officers here. Joe M. Wilson of the Simms Oil Co. was chosen vice chairman and J. A. Waters of the Sun Oil Co., secretary-treasurer, succeeding Sam M. Aronson, who declined.

Tribute to the retiring officers was given by Chester Hammill. The principal talk was made by Dr. F. H. Lahee, president of the American Association of Petroleum Geologists, who has just returned from a trip over the country visiting member organizations.

DEATH OF THOMAS SCROXTON

Thomas Scroxton, aged 91 years, died in Bradford, Pa., Sunday, November 28. He was one of the oldest oil producers both in age and years of service in the industry. Mr. Scroxton went to Titusville from Sackett's Harbor, N. Y., in 1863, and after some experience as a workman in the field began operating on his own account. He went to the Bradford Field in 1879 and for a time was a partner of Joseph H. Evans in one oil property previous to the time Mr. Evans and others organized the Devonian Oil Co. At the time of his death Mr. Scroxton owned oil property in the Rutherford Run district of the Bradford Field.

Summary of Agreement on New Tanker Pool

(Continued from Page 10)

rel of cargo capacity, determined as provided in Article 3 hereof, for each 20 days of lay-up, and proportionately for a part thereof, to-wit: for vessels not ready for service, 3 cents per barrel; for vessels ready for service, 6 cents per barrel.

Ready for Service

"A vessel shall be deemed 'ready for service' under this agreement if, within ten (10) days, she can be classed in any recognized classification society, pass inspection by the U. S. Steamboat Inspection Service, and can be made seaworthy and fit to carry crude oil or petroleum products. In the event of any dispute over the compliance of any vessel with the above requirements which cannot be settled by the owner or chartered owner of the vessel and the board, such dispute shall be referred to the principal representative in the United States of the classification society in which such vessel is classed or the owner elects to have her classed when required for service. The findings of such representative shall be conclusive on the owner or chartered owner of the vessel and the board.

"(b) On account of vessels in service, payments at the rate of 17.3 cents per barrel for 30 degrees A.P.I. gravity sweet crude oil transported in the Gulf/New York range. For cargo transported between other ports and cargo of different kind and grades transported between all ports, the payments shall be equitable equivalents of the Gulf/New York range rate, to be fixed by the board. The above rate of 17.3 cents per barrel is based upon a price of 70 cents per barrel for bunker oil at a safe U. S. Gulf of Mexico port. In the event of said price being increased, the board shall have authority equitably to increase the above rates for oil transported.

"(c) The balance of the earnings shall be distributed pro rata based upon the cargo carrying capacities of all the vessels hereunder, determined as provided in Article 3 hereof, and the time the vessels are under the management of the conference.

"Except as otherwise provided herein, the rates set forth in Paragraphs 'a' and 'b' above may be revised only by the unanimous vote of the conference.

"In the event the earnings are insufficient to meet the obligations under this agreement, the deficiency therein shall be paid by the owners and chartered owners of all the vessels pro rata on the basis stated in Paragraph 'c' of Article 12 hereof, and the parties hereto agree to make said proportionate payments.

"Payments under Paragraph 'a' of Article 12 hereof shall be made monthly, on the fifteenth day of each month, for account of the preceding calendar month. Payments under paragraph 'b' of said article shall be made on the termination of the completed voyages, or as soon thereafter as practicable. Distributions under Paragraph 'c' of said article shall be made as and when ordered by the conference.

"The parties hereto shall not sell or transfer any of their vessels not placed under the management of the conference, except on the condition that such vessels shall not, during the term of this agreement, be used in coastwise or intercoastal trade of the United States.

"The owner or chartered owner of any oil tank vessel of 3,500 tons cargo capacity and over, and capable of complying with the terms hereof, may become a party to this agreement by subscribing to its terms and conditions and the rules and regulations of the conference and the board and placing such vessel under the management of the conference.

"This agreement shall be and remain in full force and effect for a period of three years and such further period as the parties may unanimously determine."

Exports of Equipment Increased in October

WASHINGTON, D. C., Dec. 3.—Exports of petroleum and gas well drilling apparatus and other petroleum well and refining machinery during October totaled in value $339,372, an increase from $321,320 in value during September, and from $300,982 in June.

There was a pronounced increase in exports in value in the case of drilling apparatus alone from $121,723 in September to $180,001 in October.

The larger part of the exports of all the drilling apparatus went to Venezuela and British India, the former taking such exports to the extent of $50,002 and the latter $65,835.

At the same time Venezuela and the Netherland West Indies took about one-half of the refining machinery, the exports of the former being valued at $40,847 and the latter at $41,196.

The Argentine received over $24,000 worth of both drilling apparatus and refining machinery in October, which was a decrease compared with September when the total going to the Argentine was valued at over $101,000.

Mexico's taking of both classes of oil machinery decreased in value from $34,896 to less than $18,000.

Colombia decreased from $27,567 to $13,196.

DEATH OF MRS. GEORGE W. ROSE

J. Harvey Rose, president of the Bradford Oil Refining Co., was bereft of his mother, Mrs. Dorcas Ann Rose, who died in Bradford Saturday, November 26, at the age of 92 years. Mrs. Rose was the wife of the late George W. Rose, who in the early years of the oil business owned and conducted an oil field supply shop in which his skill as a mechanic and his gift as an inventor was exercised to a high degree and to the great benefit of an infant industry. Mrs. Rose had been a resident of the oil country for about 60 years.

Crude Oil Prices

(Continued from Page 25)

Maljamar (Nov. 11, 1932) ..... .50
Artesia-Jackson (Nov. 11, 1932) ..... .55

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback, and Iles by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County, effective October 15, The Texas Company and Shell Petroleum Corp., 75 cents; effective April 11, 1932, Humble Oil & Refining Co., 65 cents. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

Eastern States

JOSEPH SEEP PURCHASING AGENCY
(Effective October 3, 1932)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$1.72
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.42
Penna Grade Oil in Eureka Pipe Line Lines	1.37
Penna Grade Oil in Buckeye Pipe Line Lines	1.32
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Oct. 4, 1932)	.85
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931)	.69

PENNZOIL CO.
(Effective October 3, 1932)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.67
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	1.66
Includes Titusville district.	
Group C	1.65
Includes Turkey and Tidiout districts.	
Group D	1.64
Includes Bear Creek and Porkey districts.	
Group E	1.62
Includes Eidenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinsua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

TIDE WATER PIPE CO.
(Effective October 3, 1932)

Bradford, Pa.	$1.72
Allegany, N. Y.	1.72

PURE OIL CO.
(Effective October 3, 1932)

Cabin Creek, W. Va.	$1.37
Bradford Hollow, W. Va.	1.37
Kelly's Creek, W. Va.	1.37

Middle Western States

OHIO OIL CO.
(Effective April 11, 1932)

Lima	$1.16
Wooster	1.26
Illinois	1.10
Indiana	.75
Princeton	1.16
Plymouth	Shut in
Western Kentucky	1.06
Midland, Mich. (July 13, 1932)*	.85
Muskegon (July 14, 1932)†	
	Mid-Continent gravity scale
Muskegon (June 30, 1932)†	.95
Somerset, Ky. (Apr. 25, 1932)	.85
Hart County, Ky. (June 10, 1932)‡	1.00

*Posted by Pure Oil Co. Old Dutch Refining Co. pays 20 cents per barrel over Pure Oil Co.'s posted price. †Naph-Sol Refining Co. ‡Old Dutch Refining Co. ‖Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

Mexico

Panuco*	$0.42

*F.o.b. ship, based on September transactions and exclusive of production and export taxes and bar dues.

Canada

Ontario (Nov. 3, 1931):	
Petrolia*	$1.90
Oil Springs*	1.97
Alberta (Apr. 22, 1932):	
Turner Valley†:	
Crude oil 40-44.9	1.50
Crude oil 45-45.9	2.18
Crude oil 50 and above	2.50
Crude naphtha	2.32
Discolored naphtha	2.08

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective June 26, 1932)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

Gravity—	Signal Hill (Long Beach)	Seal Beach, Alamitos Heights, Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Athens, Rosecrans, Dominguez	Montebello	Wheeler Ridge	Coalinga	Whittier-LaHabra
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	....	$.55	$.55	....	$.65	$.55	$.55	$.65
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
20-20.9	.69	.69	.71	.69	.69	.69	.69	.65	....	.59	.59	....	.65	.57	.59	.68
21-21.9	.74	.74	.77	.74	.74	.74	.74	.66	....	.63	.63	....	.67	.60	.62	.72
22-22.9	.79	.79	.82	.78	.79	.79	.79	.70	....	.69	.69	....	.70	.63	.65	.77
23-23.9	.84	.84	.88	.82	.84	.84	.84	.76	....	.75	.75	....	.73	.66	.68	.83
24-24.9	.89	.89	.92	.86	.89	.89	.89	.81	$.73	.81	.81	$.89	.76	.69	.72	.89
25-25.9	.93	.93	....	.91	.93	.93	.93	.86	.79	.87	.87	.93	.80	.72	.75	....
26-26.9	.97	.97	....	.96	.97	....	....	.90	.84	.92	.91	.97	....	....	....	....
27-27.9	1.00	....	....	....	1.00	....	....	.94	.89	.97	.94	1.00	....	....	....	....
28-28.9	1.03	....	....	....	1.03	....	....	.98	.94	1.02	.99	1.03	....	....	....	....
29-29.9	1.06	....	....	....	....	....	....	1.02	.98	1.07	1.02	1.06	....	....	....	....
30-30.9	1.09	....	....	....	....	....	....	1.05	1.02	1.12	1.05	1.09	....	....	....	....
31-31.9	....	....	....	....	....	....	....	....	1.06	....	....	1.12	....	....	....	....
32-32.9	....	....	....	....	....	....	....	....	1.10	....	....	1.15	....	....	....	....
33-33.9	....	....	....	....	....	....	....	....	1.14	....	....	....	....	....	....	....
34-34.9	....	....	....	....	....	....	....	....	1.18	....	....	....	....	....	....	....
35-35.9	....	....	....	....	....	....	....	....	1.22	....	....	....	....	....	....	....

The Texas Company, effective June 26, posted same prices as the Standard Oil Co. in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello, North Whittier and Santa Fe Springs.

The Union Oil Co., effective June 26, posted the same price as the Standard Oil Co. in the Signal Hill, Alamitos Heights, Seal Beach, Huntington Beach, Athens, Rosecrans, Dominguez, Torrance, Santa Fe Springs, Playa Del Rey, Coyote, Olinda, Brea Canyon, Richfield and Montebello. In Coalinga, Lost Hills, Kern River, McKittrick, Midway-Sunset, Elk Hills and Buena Vista Hills the Union Oil Co. met the Standard Oil Co.'s prices from 14 gravity upward, but posted a price of 50 cents for oil 11 to 13.9 degrees in gravity.

General Petroleum adopted Standard Oil Co.'s prices, effective June 26, in Rosecrans, Signal Hill, Alamitos Heights, Santa Fe Springs, Inglewood, Torrance, Brea Canyon and Olinda, up to 25.9 degrees; Richfield, Midway-Sunset, Kern River, Mount Poso, Round Mountain and Coalinga and posted in Rincon as follows: 22-22.9 degrees, 68 cents; 23-23.9 degrees, 73 cents; 24-24.9 degrees, 78 cents; 25-25.9 degrees, 82 cents; 26-26.9 degrees, 86 cents; 27-27.9 degrees, 89 cents; 28-28.9 degrees, 92 cents; 29-29.9 degrees, 95 cents; 30 degrees and over, 98 cents. In Rosecrans, General Petroleum Co. pays 65 cents for 14 to 19.9 gravity oil; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 74 cents; 22-22.9 degrees, 79 cents; 23-23.9 degrees, 85 cents, and Standard's prices for oil of higher gravity.

Associated Oil Co., effective June 26, met Standard Oil Co.'s prices in Signal Hill, Huntington Beach, Seal Beach, Alamitos Heights, Richfield, Torrance, Inglewood, Athens, Rosecrans, Dominguez, Santa Fe Springs, McKittrick, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, Lost Hills, Beiridge and Coalinga.

Kettleman Hills—The Union Oil Co., effective June 26, posted 33-33.9 gravity oil at 91 cents; 34-34.9 degrees, 93 cents; 35-35.9 degrees, 95 cents; 36-36.9 degrees, 97 cents; 37-37.9 degrees, 99 cents; 38-38.9 degrees, $1.01; 39 degrees and over, $1.03. Standard Oil Co., Associated Oil Co. and General Petroleum Co. adopted same price schedule on same day.

Santa Paula—The Union Oil Co. and The Texas Company, effective June 26, posted as follows: 14 degrees to 19.9 degrees, 66 cents; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 72 cents; 22-22.9 degrees, 75 cents; 23-23.9 degrees, 78 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 84 cents; 26-26.9 degrees, 87 cents; 27-27.9 degrees, 90 cents; 28-28.9 degrees, 93 cents; 29 degrees and above, 99 cents.

Shields Canyon and South Mountain—The Texas Company, effective June 26, posted same prices as in Santa Paula.

Orcutt—The Union Oil Co., effective June 26, posted prices as follows: 16 degrees to 19.9 degrees, 55 cents; 20-20.9 degrees, 59 cents; 21-21.9 degrees, 63 cents; 22-22.9 degrees, 69 cents; 23-23.9 degrees, 75 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 87 cents; 26 degrees and above, 92 cents.

Playa Del Rey—Subject to a field gathering charge of 5 cents per barrel.

Newhall, McKittrick and Kern River—Standard Oil Co., effective June 23, 1931, posted 55 cents for oil of all grades.

Elwood Terrace—Standard Oil Co., effective June 26, 1932, posts 32-32.9 degrees, $1.04; 34-34.9 degrees, $1.10; 35-35.9 degrees, $1.16; 36-36.9 degrees, $1.22; 37-37.9 degrees, $1.28. All prices f.o.b. ships.

Ventura Avenue—General Petroleum Co. and Associated Oil Co. effective June 26 posted as follows: 22-22.9 degrees, 72 cents; 23-23.9 degrees, 77 cents; 24-24.9 degrees, 83 cents; 25-25.9 degrees, 88 cents; 26-26.9 degrees, 90 cents; 27-27.9 degrees, 93 cents; 28-28.9 degrees, 96 cents; 29-29.9 degrees, 99 cents; 30 degrees and over, $1.02.

Potrero—Associated Oil Co., effective June 26, posted same prices as are paid by all companies in Athens, Rosecrans and Dominguez.

N.P.A. Announces Department Heads to Serve in 1933

The National Petroleum Association with headquarters at Washington, D. C., has announced the personnel of its departments for the year ending September, 1933. A large part of the association's work is carried on through departments whose personnel consists of representatives from the refining organizations which constitute the association's membership. Following is the personnel of the departments as announced last week:

Economics, Accounting and Statistics—Charles L. Suhr, trustee in charge. Councillors: D. W. Grant, Noel Robinson, Howard H. Greene, H. A. Logan and Clarence M. Davison.

Legislation and Litigation—W. T. Holliday, trustee in charge. Willis Crane, associate counsel, Washington, D. C. Councillors: Frank R. Coates, M. F. Cowden, William A. McAfee, W. J. Guthrie, and Carl Barker.

Manufacture—(a) Division of Manufacturing: Otto Koch, trustee in charge. Councillors: Earl E. Brown, W. M. Lowe. Alternate: Charles E. Kinder, H. W. Walchli, F. J. McGraw and J. B. Northrop.

Group Chairmen

Bradford: Earl Bown, chairman (Kendall Refining Co., Bradford, Pa.); Bradford Oil Refining Co.; Kendall Refining Co.; Pennsylvania Oil Products Refining Co., Sinclair Refining Co., Quaker State Oil Refining Corp. (McKean plant), and Vacuum Oil Co.

Warren: Harold J. Dunmire, chairman (Valvoline Oil Co.), Conewango Refining Co., Superior Oil Works, Pure Penn Refining Co., Tiona Refining Co., United Refining Co., Valvoline Oil Co., Bradford Penn Refining Corp.

Oil City-Titusville: J. M. Hindman, chairman (Pennsoil Co.), Continental Refining Co., Crew-Levick Co., Crystal Oil Works, Franklin Refining Corp., Oil Creek Refining Co., Pennsoil Co., Pennsylvania Refining Co., Quaker State Oil Refining Corp. (Emlenton and Independent plants), Wolverine-Empire Refining Co.

Butler: T. M. Murphy, chairman (W. H. Daugherty & Son Refining Co.), W. H. Daugherty & Son Refining Co., Pennsylvania Refining Co., Ultra-Penn Refining Co., Valvoline Oil Co.

Pittsburgh: Benjamin Heath, chairman (Freedom Oil Works Co.), Canfield Oil Co., Freedom Oil Works Co., A. D. Miller Sons' Co., Waverly Oil Works Co.

West Virginia: J. B. Northrop, chairman (Ohio Valley Refining Co.), Ashland Refining Co., Elk Refining Co., National Refining Co., Ohio Valley Refining Co., Tristate Refining Co., Pure Oil Co.

Division of Scientific Research: G. C. Davison, trustee in charge. Councillors: D. G. Brandt, J. S. Harrison, Dr. J. B. Rather, C. R. Wagner, and W. S. Zehrung.

Membership and Relations: C. G. Sheffield, trustee in charge. Councillors: John S. Cordell, John P. Flynn, Frank B. Fretter, H. A. Logan and A. C. Woodman.

Standards and Tests: O. P. Keeney, trustee in charge. Councillors: F. W. Breth, MacLean Houston, E. M. Keely, Dr. E. W. Dean and Frank Philippbar.

Group Chairmen

Bradford: Frank Bowley (Quaker State Oil Refining Corp., McKean plant, Bradford, Pa.).

Warren: MacLean Houston (United Refining Co., Warren, Pa.).

Oil City-Titusville: F. R. Buckham (Quaker State Oil Refining Corp., Independent plant, Oil City, Pa.).

Pittsburgh: F. L. Way (Freedom Oil Works Co., Freedom, Pa.).

West Virginia: Raymond Dye (Ohio Valley Refining Co., St. Marys, W. Va.).

Ohio: V. I. Downey (National Refining Co., Findlay, Ohio).

Central States: M. B. Chittick (Pure Oil Co., Chicago, Ill.).

Eastern: E. M. Keely (Crew-Levick Co., Philadelphia, Pa.).

Trade and commerce: W. V. Hartmann, trustee in charge. East Coast group: C. G. Sheffield, chairman (Standard Oil Co. (New Jersey), New York City. Councillors: Axtell J. Byles, J. W. Carnes, Frederic Ewing, Harry D. Frueauff and J. Howard Pew.

Pennsylvania-West Virginia group: H. A. Logan, chairman (United Refining Co., Warren, Pa.). Councillors: Paul Blazer, A. M. Keister, J. B. Fisher, R. B. McKee, A. B. Weingard and E. V. Moncrief.

Central States group: Charles S. Smith, chairman (National Refining Co., Cleveland, Ohio). Councillors: M. O. Cameron, H. M. Carruth, W. E. Smith, L. van Eeghen, B. W. Browne, R. H. McElroy, J. F. McMahon, P. M. Miskell, A. M. Maxwell and H. T. Ashton.

Traffic and transportation: Frank B. Fretter, trustee in charge (National Refining Co., Cleveland, Ohio). Harry S. Elkins, traffic attorney, Washington, D. C. East Coast group: Councillors: L. H. Benner, C. B. Ellis, W. A. Hamel, J. M. O'Day and R. W. Ostrander.

Pennsylvania-West Virginia group: Councillors: J. T. Brosnahan, D. E. Carrier, J. B. Fisher, R. D. Lowe and W. E. Miller.

Central States group: Councillors: B. C. Graves, E. E. Harrington, Henry Hauseman, E. W. Siebolt and A. M. Stephens.

Fire prevention and safety: R. A. Wotowitch, trustee in charge. Willis Crane, associated counsel, Washington, D. C. Councillors: P. H. Schmidt, Charles E. Kinder, Frank A. Epps, James H. Herbert and W. D. Manz. Associate Councillor: Houston Dunn (National Petroleum Mutual Fire Insurance Co., Philadelphia, Pa.).

Insurance: Harry M. Carruth, trustee in charge. Councillors: Wayne K. Glenn, Harold W. Jackson, Harry W. Schmidt, W. A. Powell and C. E. Townsend. Associate Councillor: Houston Dunn (National Petroleum Mutual Fire Insurance Co., Philadelphia, Pa.).

Production Drops 64,000 Bbls. Per Day in October

Production of crude petroleum in October totaled 65,219,000 bbls., a daily average of 2,104,000 bbls. and a decline of 64,000 bbls. from the daily average in September, according to figures given out by the Department of Commerce in Washington, D. C.

The total was a decline of 200,000 bbls. daily, or an average of 11 per cent, from October a year ago. Most of the decline occurred in Texas. The output of the East Texas Field totaled 11,131,000 bbls. in October, a daily average of 359,000 bbls., compared with a daily average of 371,000 bbls. in September. The decline of 12,000 bbls. was partly the result of slowing down in field activity, although the primary cause was the reduction in the allowable per well of 46 to 44 bbls. per day on October 1 and to 40 bbls. on October 15.

The decline in crude production and increased refinery demand were reflected in crude stocks which fell off 2,085,000 bbls. compared with a decline of 1,270,000 bbls. in September.

The net decrease in total stocks of all oils of 5,735,000 bbls. did not measure up to that of September by about 2,000,000 bbls.

The indicated domestic demand for motor fuel in October totaled 32,255,000 bbls., or a daily average of 1,040,000 bbls., a decline from a year ago of 8.1 per cent.

Stocks of motor fuel on hand November 31 was 47,040,000 bbls., or 893,000 bbls. below the total on hand at the close of September. The stocks of all oils at the end of October amounted to 607,407,000 bbls., compared with 613,142,000 bbls. at the end of September.

The decline in crude production and increased refinery demand were reflected in crude stocks, which fell off 2,085,000 bbls. compared with a decline of 1,270,000 bbls. in September.

Emminent Metallurgist to Address Engineers

The Mid-Continent section of the American Institute of Mining and Metallurgical Engineers will hold its regular monthly meeting on the evening of December 12 in the assembly hall of the University Club, Tulsa. James Aston, inventor of a process now used extensively in the manufacture of wrought iron, will

JAMES ASTON

address the meeting and will explain a five-reel motion picture entitled "The New Story of Ancient Wrought Iron".

R. R. Hawkins and M. R. Perry, petroleum engineers, The Texas Company, Tulsa, will present a joint paper upon their experiences with the use of tapered tubing. Mr. Aston is recognized as an authority on the metallurgy of iron and in 1929 he was awarded the Robert Hunt metal for his outstanding work in this field. He is consulting metallurgist for A. M. Byers Co., Pittsburgh, professor of mining and metallurgy and head of the department of mining and metallurgical engineering of Carnegie Institute of Technology and inventor of the Byers new process for making wrought iron.

Mr. Aston was born in England in 1876. His early days were spent in Milwaukee, where he received his education. He graduated in 1898 from the University of Wisconsin with a B.S. degree in electrical engineering. In 1908 he returned to the University of Wisconsin to do research work in metallurgy. A year later he became instructor in metallurgy. After four years at Wisconsin, during which time he received a degree of chemical engineer, he went to the University of Cincinnati to do analytical work in metallurgy. After four years at Cincinnati University Mr. Aston went with the U. S. Bureau of Mines in Pittsburgh as metallurgist specializing in corrosion problems. In 1915 he joined the Byers organization as chief metallurgist.

Mr. Aston is scheduled to address the Bartlesville, Okla., Engineers Club on the evening of December 13. The meeting will be held in the Doherty Men's Club rooms in the Empire Building.

Everyone interested in these meetings is invited to attend whether he be a member of the organization or not.

A. S. DENT PROMOTED

Sinclair Prairie Oil Marketing Co. announces that A. S. Dent has been appointed head of the division order department, with headquarters in Tulsa, to take the place of E. R. Patty, deceased. A. V. Schumacker has been appointed assistant to Mr. Dent.

The branch office of the Sinclair Prairie Oil Marketing Co. division order department, which has been located and maintained at Tyler, Tex., has been moved to Fort Worth, Tex., from which office all work for the entire State of Texas, with T. W. Everett in charge, will be handled.

Exposition Directors Will Sound Industry on Time of Next Show

The directors of the International Petroleum Exposition at a special meeting held in Tulsa on December 3 authorized President William G. Skelly to appoint a committee of five to survey the oil industry and make recommendations as to the time of holding the next oil show.

The meeting was attended by oil executives, representatives of equipment manufacturers and dealers, and oil trade journals, and a free discussion of the subject was engaged in.

Texas Commissioners Will Cut Allowable to 800,000

AUSTIN, Tex., Dec. 6.—Railroad Commissioner Ernest O. Thompson hurried back to Austin Tuesday from Mexico for a meeting of the commission to consider a reduction in the Texas allowable oil production order. He said he was informed that duplications in the original nominations under which the state allowable was fixed a week ago probably will necessitate cutting down the total output.

Commissioner Lon A. Smith said he believed about 800,000 bbls. daily will prove the correct figure when the nominations are cleared of duplications.

The commissioners said it may require several days to evolve an order.

Late Fields

KANSAS

The Kansas Public Service Commission announced that effective December 1 the allowable production of the Voshell Pool, in McPherson County, was reduced from 40 per cent of the potential to 20 per cent. This reduction includes all the wells in the field except the chat wells in the pool.

The commission also ordered a reduction in the daily allowable of the Ritz-Canton Pool, in McPherson County. The Viola lime wells were reduced from 15 per cent to 10½ per cent, and the chat wells were reduced from 20 per cent to 15½ per cent of the potential.

The production in the Johnson Pool, in McPherson County, was reduced from 33 bbls. per well to 29 bbls. per well. This field has 17 producing wells.

OKLAHOMA

In the West Seminole Field, The Texas Company's No. 5 Sandlin, NE cor. SW SW Section 29-9-6, Seminole County, was making 45 bbls. an hour from the Wilcox sand at 4,127-52 feet. It was shot twice, once with 20 and again with 40 quarts.

Dickson Oil Corp.'s No. 2 Jackson, NW cor. SW SW Section 22-5-6, in the Conservation Pool, in Pontotoc County, is testing a showing of oil found at 1,645-55 feet. Oil filled up the hole at the rate of 7 bbls. an hour. It will be given a swabbing test. Due to pipe demands in the Conservation Pool wells are permitted to produce only 50 bbls. daily.

Watchorn Oil Co.'s No. 1, NW cor. SW SE Section 5-6-5, Pontotoc County, is a new location.

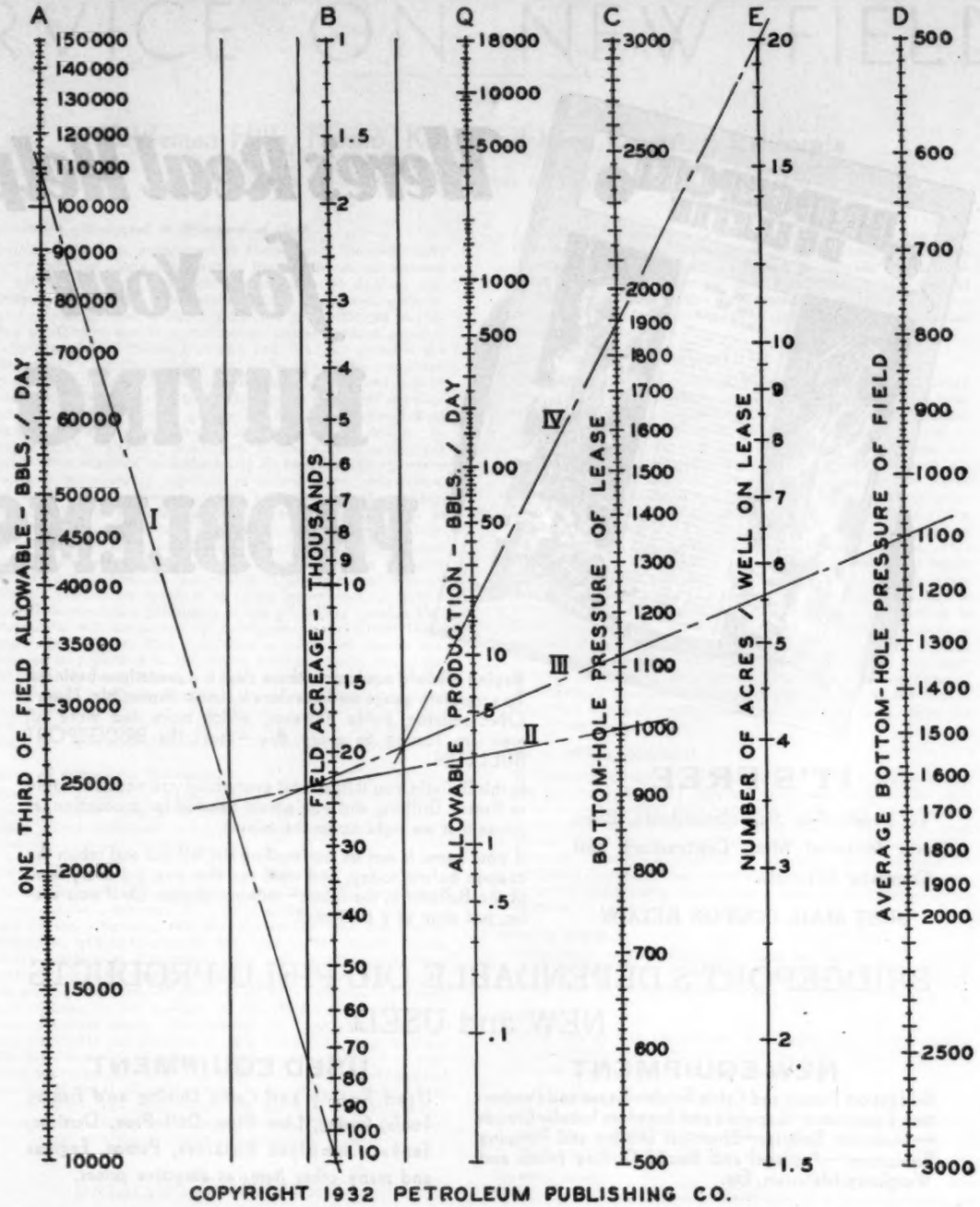
WEST TEXAS

FORT WORTH, Tex., Dec. 6.—Mintex Oil Co.'s No. 1 Waring, Section 163, and N.O. Survey wildcat, Concho County, pumped 50 bbls. of oil and a smaller amount of water during the first 24 hours on pump. Most of the water was pumped off. Further pumping will be necessary before it will be known whether the test proves the first commercial production for the county.

REFINERY WORK COMMENCED

CHATHAM, Ontario, Dec. 3.—Work has been commenced by L. R. Olson and associates on the first unit of a new refinery at Edmonton, Alberta. The first unit will cost about $40,000 and an ultimate expenditure of $400,000 is contemplated. A new company will be organized, headed by Mr. Olson, who is head of General Petroleums, Ltd., of Calgary.

The Oil and Gas Journal's Allowable Production Chart



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FORMULA: $Q = \frac{A}{B} \times \frac{C}{D} \times E$

WHEN A = 1-3 OF FIELD ALLOWABLE.
B = NUMBER OF ACRES IN FIELD.
C = BOTTOM-HOLE PRESSURE OF LEASE.
D = AVERAGE BOTTOM-HOLE PRESSURE OF FIELD.
E = NUMBER OF ACRES PER WELL ON LEASE.
Q = ALLOWABLE DAILY PRODUCTION ALLOCATED TO ACREAGE AND BOTTOM-HOLE PRESSURE.

Example:

One-third of field allowable is 108,333 bbls., "A" scale.
Field acreage is 114,000 acres, "B" scale.
Lease pressure is 1,000 pounds, "C" scale.
Field average bottom hole pressure, 1,100 pounds, "D" scale.
Well drainage area, 20 acres, "E" scale.
Flat well allowable on present basis, 24 bbls.
Read the additional allowable in barrels on "Q" scale.

Place straightedge to pass through values on "A" and "B" scales and draw line "I".

From work point where "I" line crosses first plain vertical line to right of "A" place straightedge to pass through this work point and value on "C" scale. Draw "II" line.

"II" line crosses second plain vertical line and establishes second work point. Lay straightedge to pass through this work point and value on scale "D" and draw line "III". This establishes work point of third plain vertical line.

Place straightedge to pass through work point on third plain line and value on "E" scale and draw line "IV" which will pass through value on "Q" giving barrels of additional allowable. Add this amount to the 24-bbl. flat allowable under present basis.

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SERVICE ON NEW FIELDS

Kettleman Hills, Fresno, Kings and Kern Counties, California

(Continued from the November 24 Issue of The Oil and Gas Journal)

Development subsequent to discovery of field.

Drilling operations, subsequent to discovery of the field, have been conducted along conservative lines with normal spacing of wells. This work has been free of town lot drilling and, while operators have been rather zealous in preventing drainage by drilling offset wells, this has not been reflected in current production due to curtailment. Offset drilling is especially conspicuous in the Huffman and Whepley areas of the field where a number of excellent wells have been completed on fee acreage adjoining holdings of the Standard and Kettleman North Dome Association. During the course of development work, the limits of production have been extended at several points and operators are progressively drilling to deeper depths. Present production is now almost exclusively black oil, in contrast with the white oil found in the discovery well and subsequently produced in several later completions. Up until recently most operators have been of the opinion that the Whepley shale was the bottom of the Temblor in the North Dome, but this belief has been proven fallacious. As a matter of fact, the Kettleman North Dome Association has already drilled several hundred feet below the Whepley shale in a deep test and was still in Temblor at last reports. Kenda's exploration work is of prime importance to Kettleman Hills operators because it is the prevailing opinion that production will ultimately be developed in the North Dome below the Temblor. This possibility is supported by the outcome of deep drilling in the North Belridge Field, where the Belridge Oil Co. is believed to have found a new highly productive zone below the Temblor. Geological formations of the two fields are similar and if production has been found below the Temblor in the North Belridge Field it is logical to assume that it should also be found at Kettleman Hills.

Number of operations November 1.

There are 11 drilling wells under way in the North Dome and one active drilling project making hole in the Middle Dome. Two additional wells are being prepared for early work in the North Dome.

Future activity.

Due to the enormous potentiality of the North Dome, already proven up for a distance of approximately 10 miles along the axis of the structure, and the probability that commercial production will ultimately be developed in the Middle Dome, future activity at Kettleman Hills will be conducted along conservative lines and engineered in accordance with generally accepted methods of practical oil field development. Lease requirements on fee acreage in the Huffman and Whepley areas stipulate normal development with the result that we may anticipate the starting of new wells from time to time. The Kettleman North Dome Association is required to continue active development in certain areas, particularly around the edge of the structure, in order to establish the outer limits of production and thus reduce the amount of participating acreage. This will make it necessary for Kenda to keep several strings of tools in continuous operation.

DRILLING CONDITIONS

Drilling water.

Due to the arid condition of the Kettleman Hills area, drilling water was rather scarce for some time after the field was opened up, but this deficiency has been overcome by the installation of adequate water lines.

Boiler fuel.

A superabundant supply of natural gas is available and operators are using this cheap fuel under the boilers after extracting the natural gasoline content.

How wells are drilled.

As a general rule, operators at Kettleman Hills do their own drilling, although there have been some drilling contracts placed in the past. Wells are being drilled in accordance with a plan that contemplates one well to each 10 acres. Standard and Kettleman North Dome Association have adopted a uniform system under which the number of the well indicates its location. The first digit indicates the vertical row, and the second the horizontal row, starting from the northwest corner of each section. Townships and ranges are assigned a letter and thus the number of a well indicates its exact location in the section and township. Kenda's well No. 38-34J, a deep test, for instance, is located three rows south and eight rows east of the northwest corner of the section. The figures 34 indicate that the well is located in Section 34 and the letter J indicates Township 21s, Range 17e. Well No. 38 is therefore located in the extreme eastern part of the property and three locations south of the north line of Section 34-21-17.

Drilling time to complete wells.

The formations at Kettleman Hills are fairly hard, although good time is made down to the top of the brown shale, from which point on drilling becomes more difficult. The Temblor is even harder to drill than the brown shale but varies in hardness, the eastern end of the field being harder than the western. During the early stages of development it took approximately 10 months to complete a well in the North Dome, six months being required to drill to the shut-off point and four months to the completion depth. This time has been gradually reduced and by using a simpler casing program an 8,300-foot well can be finished in about five months. This time is exclusive, of course, of any delays which might result from mechanical trouble. This reduction in drilling time, which has taken place in spite of the fact that more care is taken to drill a straight hole and that more penetration is being taken in the oil and gas zone, is probably due to a number of factors, such as more familiarity with the drilling problems of the field and consequent selection of the most suitable equipment, less need for coring as knowledge of underground conditions increases, but chiefly to the use of improved bits and lighter mud fluid when drilling below the top of the brown shale.

Type of drilling equipment.

Drilling operations are done exclusively with rotary tools and the equipment in every case is as heavy and substantial as it is possible to secure. The standard heavy duty rotary drawworks and table with steam power and steam driven mud pumps have been used on the majority of Kettleman Hills projects although a number of operators have successfully employed hydraulic feed rotaries with gear driven unit construction drawworks, powered by three-cylinder vertical steam engines.

Electric power.

Both steam and electricity are used as power in the drilling of new wells. The trend at present is toward the use of steam due to the abundance of gas available for use.

Derricks.

With one or two exceptions, Kettleman Hills operators are using standardized 122-foot steel derricks. Foundations are heavier and the cellars larger than usual.

Type of bits and drill stem.

Practically all types of bits are used at one time or another. Rock bits are generally used in drilling through the brown shale and underlying Temblor oil sand.

Drilling mud.

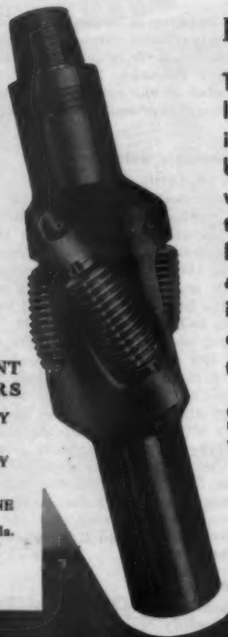
During the early stages of development it was customary to use 75 or 80-pound mud which was later increased to 85 pounds while drilling ahead in the oil or gas zone. It gradually became apparent, however, in view of the long fluid column that the use of such heavy mud was not necessary, provided that it was kept in proper condition, especially because the elaborate blow-out prevention devices with which every well is equipped greatly enhanced the safety factor. The weight of the drilling fluid is at present maintained at about 70 pounds except while coping with some unusual condition. The use of thinner mud fluid has speeded up drilling and reduced drilling time.

Casing.

During 1931 the casing program was more or less standardized by the general use of 20-inch, 13⅜-inch, 9⅝-inch and 7-inch or 6⅝-inch pipe, but a noticeable change in this program has taken place during the past several months. This change, incidentally, has stepped up drilling operations and substantially reduced the time from spud to completion. It is becoming common practice to eliminate the 20-inch and use a string of 13⅜-inch in its place. Heavy, special alloy, seamless casing is used almost exclusively. The 13⅜-inch is, under the latest program, cemented between 1,000 and 1,500 feet and then an 8⅝-inch water string landed and cemented

(Continued on Next Page)

FIRST CHOICE AT KETTLEMAN HILLS



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SECURITY ENGINEERING CO.
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A 24" Sievers Reamer after being used at Kettleman Hills. The reamer was located 40 feet above the drilling bit as a stabilizer, guide and hole conditioner. (This well is now 9,500 feet deep and a Sievers Reamer has been used behind all bits. The hole is absolutely vertical.)

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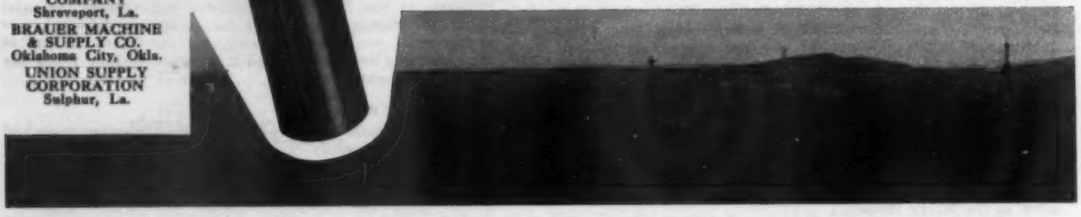

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SERVICE ON NEW FIELDS

Kettleman Hills, Fresno, Kings and Kern Counties, California

(Continued from Preceding Page)

between the bentonite marker, in the lower part of the brown shale, and the top of the underlying Temblor. The final string, which may be either 7-inch or 6⅝-inch, is then landed on bottom and cemented through perforations at a depth governed by the horizon to be produced and the structural location of the well.

Screen and liner.

It is the general practice to land a complete flow string, with perforated pipe or screen casing to take care of the oil sand, instead of a short liner. These are combination jobs and the string is cemented through perforations at the desired point.

Drill stem tests.

It has not become common practice to make drill stem tests as the formations are quite consistent. Frequent coring is done, however, as it is necessary to definitely log the various markers.

Gas hazards and blowout preventers.

A very elaborate assembly of blowout prevent equipment is used at all drilling wells in Kettleman Hills. This equipment is first installed when the 13⅜-inch casing is cemented. Two control gates are placed on the casing in the cellar, one of which is equipped with rams for closing around the drill pipe, and the other for complete shutoff when the drill pipe is out of the hole. Both are operated by hand wheels placed outside the derrick. In addition, there is an insert type of blowout preventer on the top of the casing immediately under the rotary table, and a stopcock on the kelly or float valves in the drill pipe. Two inserts are kept on the derrick floor, one for closing around the drill pipe and the other for closing around the kelly. Similar equipment is installed on the water string as soon as it is cemented. Equally elaborate flow connections are installed when drilling has been completed, and every known precaution is taken to prevent wells from getting beyond control. The equipment used is shop tested with kerosene or water under pressures of from 5,000 to 10,000 pounds per inch. In some instances, the gate with drill pipe rams has been omitted from the 13⅜-inch casing because of the danger of blowout is not considered great until the top of the Temblor is reached, but most operators have all the equipment and prefer to use it.

Straight-hole drilling.

In the early development of the field, crooked-hole difficulties were encountered primarily in the brown shale but, in recent work, bit stabilizers are being used to eliminate this undesirable condition and, as a result, straight holes in Kettleman Hills are now drilled to a depth of from 8,500 to 9,000 feet.

Rig builders and contractors.

Company crews do all derrick construction and rigging up.

PRODUCTION PRACTICE

Proration restrictions.

With the exception of the gas conservation law, which prohibits waste of natural gas, California does not have any effective legislation requiring compulsory proration or restriction of production. California's curtailment program is therefore a mutual co-operative undertaking.

Completion of wells.

Due to the weight of the long column of fluid and use of heavy drilling mud, wells are usually washed out and then swabbed in without difficulty. Tubing is landed in all wells. This practice increases the safety factor and enhances the regulation of production.

Gas-oil ratios.

The gas-oil ratios of wells finished in the Elliott zone or gas cap have ranged from 20,000 to 70,000 feet of gas per barrel of oil, varying apparently with the amount of penetration, the amount of back pressure maintained and the age of the well. The average ratio is about 50,000 feet per barrel. Gas-oil ratios of wells producing from the Ochsner or black oil zone below the gas cap have ranged from 300 to 5,000 feet per barrel, wells down the flank of the structure showing less per barrel of fluid than those higher up.

Character of oil.

The so-called white oil produced from the Elliott high-pressure zone is more or less of a condensate and tests approximately 60 degrees A.P.I. Kettleman crude is not especially desirable from a refining standpoint as the knock rating on straight distillation is poor.

Separators and tankage.

Both high and low-pressure separators are used. Tankage facilities are relatively limited as current production is shipped from day to day through the various pipe line systems.

Well-head pressures.

Pressures on flowing wells vary between 400 and 1,250 pounds on the tubing and 1,000 to 1,600 pounds on the casing. On wells that are shut in because of curtailment, tubing and casing pressures range between 1,200 and 1,800 pounds.

Salt water conditions.

No real water trouble has yet developed in the North Dome although most wells produce a minute quantity of water along with the oil. There appears to be a definite water problem in the Middle Dome of Kettleman Hills, however, although this has has not yet been verified due to the limited development undertaken up to the present time.

Paraffin.

No difficulty has been experienced with paraffin from a production standpoint but refiners and pipe line companies report the presence of this undesirable factor. Pipe lines of the Shell and Associated have shown evidence of paraffin accumulation and pipe line executives of other companies are watching this angle very closely. Some of the men frankly admit they anticipate a little trouble from paraffin accumulation in another year or so. Large cores of paraffin were removed from the Associated and Shell pipe lines last year.

Are wells shot?

No.

Artificial lifting conditions.

Operators have not found it necessary to stimulate production by artificial means as the gas pressure is sufficient to result in a natural flow.

GENERAL CONDITIONS

Principal leaseholders.

Kettleman North Dome Association controls leases on 9,640 acres of proven or potentially productive acreage. Upon organization of the association, the original prospecting permits were taken up and regular leases issued by the Government. Other leaseholders include Union-Amerada, King lease, 160 acres; Superior, Huffman lease, 160 acres; Petroleum Securities, Felix lease, 160 acres; Associated, Whepley lease, 160 acres; Shell, Dixon lease, 160 acres; and North American Consolidated, Elsinore lease, 80 acres. Exclusive of its lease interest in the Kettleman North Dome Association, all of the Standard's holdings in the North Dome are owned in fee and carried on the books of the corporation at a nominal figure. The Standard owns practically every alternate 640 acres in Kettleman Hills, having acquired this acreage when it took over the assets of the Pacific Land Co. several years ago. This property was originally a government land grant to the Southern Pacific Railroad Co.

Townsite possibilities.

None.

Character of leases.

Leases at Kettleman Hills are all held in large blocks by responsible operators and are fairly regular in shape.

Drilling restrictions.

There is no limit on the amount of drilling which may be done, as statutes of the State deal only with gas waste. California statutes governing the location of wells with respect to roads and highways in town-lot areas are not applicable to Kettleman Hills.

Operating companies November 1.

Companies having production include the Kettleman North Dome Association, Standard, Union, Associated, Shell, Superior, Petroleum Securities and North American Oil Consolidated. In addition to this group, the North Kettleman Oil &

(Continued on Next Page)

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Gas Co. is drilling an outpost on the Lillis-Welsh property in Section 24-21-16.

Oil production.

Up to October 1, 1932, the Kettleman North Dome Field has produced 42,334,434 bbls. of black and white crude oil. This is no criterion of its productiveness, however, as production has been retarded by curtailment work. During 1928 the North Dome produced 199,699 bbls. of crude oil. This increased to 1,951,786 bbls. in 1929 and 6,209,357 bbls. in 1930. During 1931 the field produced 17,544,824 bbls., as compared with 16,428,768 bbls. during the first nine months of 1932. The Kettleman Middle Dome, which has been partially proven up, has produced 10,537 bbls. of crude oil up to the present time. This oil was produced on a preliminary production test.

Gas production.

Enforcement of the California gas conservation law and cooperative action of operators has greatly reduced natural gas production in the North Dome during the past year. This constructive work has practically eliminated gas waste in California and, while no definite decision has been rendered by Superior Judge Strother with respect to injunction proceedings, the case is still alive and can be reopened if occasion demands. Due to elimination of gas waste, the case has been postponed until early in 1933. During the summer of 1931, when considerable gas was being blown to the air, the Kettleman North Dome Association attempted to reduce gas waste by injecting surplus production into wells of the Honolulu Consolidated in the Midway-Sunset Field. Kenda was obliged to discontinue this practice, however, because the Secretary of Interior insisted that the association pay the Government a royalty on this stored gas. The fact that circulation was lost frequently in sands at a depth of about 2,000 feet in some of the early drilling wells led Standard Oil Co. of California to believe that possibly these sands might be used for the storage of gas and a gas injection test was accordingly drilled in Section 11-22-17 to test the value of the idea. The well was spudded in June 12, 1929, and completed August 24, 1929. A string of 10¾-inch casing was cemented at 1,730 feet and tested for shut-off to prevent stored gas from escaping to the surface outside the casing. The well was first completed at a depth of 2,316 feet, but it was found that water under considerable head had been penetrated at or near bottom. The hole, therefore, was plugged to 1,965 feet and completed with 6⅝-inch casing, perforated below the shoe of the 10-inch. Injection of gas was started October 10, 1929, and continued until some time in the latter part of January, 1930, when the slow withdrawal of gas was started to complete a preliminary experiment. A total of 67,356,000 feet of gas was injected during this period under pressures of between 1,000 and 1,200 pounds per inch. The withdrawal was continued intermittently at various pressures and rates until some time in May, 1930. Apparently the preliminary experiment was sufficiently successful to justify further tests, because injection was again started in August, 1930, and continued until July 19, 1931. Approximately 640,000,000 feet of gas was injected during this test at the rate of about 2,500,000 feet per day against a pressure of about 1,200 pounds per inch. Withdrawal of gas was started July 24, 1931, but it is too early to draw any conclusions as to the practical value of this type of underground storage.

Drilling costs.

Familiarity with subsurface conditions and consequent revision of casing programs has resulted in a drastic reduction of drilling costs and a speeding up of work. Ochsner zone wells can now be drilled from spud to completion in about five months at an approximate cost ranging between $150,000 and $175,000. During early development, drilling costs approximated $400,000 and it required about 10 months to complete a well. Both factors have been consistently reduced.

Gasoline plants.

There are five natural gasoline absorption plants in the North Dome with an aggregate capacity of 660,000 gallons per day. The Standard has three plants, the capacities of which are 110,000 gallons, 140,000 gallons and 140,000 gallons, respectively. The largest single plant is that of the Western States Gasoline Co., which has a rated daily capacity of 160,000 gallons. The Superior Oil Co. has a 110,000-gallon plant on the Huffman lease in the western part of the field. The Texas Company's natural gasoline plant burned down several months ago and the company has not evidenced any intention of rebuilding it, at least for the present. The Standard completed a new casinghead plant in the Middle Dome a few months ago but this installation has not yet been put into operation as the company's drilling well in that area ran into mechanical trouble and its completion has accordingly been retarded.

Natural hazards.

Hazards of drilling in the Kettleman Hills are numerous. Trouble begins with loss of circulation at depths ranging from 50 to 1,500 feet. These depths are not uniform, so it does not appear that the loss is in any single stratum. Surface strings are usually cemented somewhere in the neighborhood of 1,500 feet, which is at or below most of the lost circulation depths. Another difficulty encountered in Kettleman Hills is the high-head salty water found about 200 feet below the top of the brown shale. In a few cases this high-head water has shown pressures of from 1,500 to 1,800 pounds, but in spite of this pressure no unusual difficulty has been experienced.

Unit development.

The North Dome of Kettleman Hills is the first California Field in which any concerted attempt has been made to successfully apply unit development. The feasibility of the unified operation of the North Dome was suggested shortly after the discovery of oil, but because of the divergence of interests no considerable progress was made in formulating a plan acceptable to the majority of such interests until the latter part of the year 1930. Another complication was the fact that a large part of the land to be covered by the unit organization is owned by the U. S. Government, and it required a special act of Congress to enable these lands to be included. Such an act was passed and a nonprofit corporation known as the Kettleman North Dome Association was organized during the final months of 1930 for the purpose of unified operation of certain lands on the North Dome for the benefit of its members. Any person, firm, association or corporation operating lands or having the right to develop and operate lands on the North Dome is eligible to membership. However, certain fee owners of land in the Huffman and Whepley areas refused to join the association. Standard Oil Co. of California did not join the association with its fee land, but agreed to co-operate with the association so that the net result would be practically the same. In other words, Standard Oil Co. of California and Kettleman North Dome Association have practically confined their drilling operations to offsetting in the two areas referred to. The Kettleman North Dome Association, now generally designated as Kenda, has 11 directors and the usual officers. The rights and voting power of each member are determined by the ratio of each member's acreage within the proved area to the total acreage under control of the unit within the proved area, adjusted and classified for productivity, one vote being allowed for each acre. Each section is assumed to contain exactly 640 acres in all matters involving acreage, and each subdivision of a section is deemed to contain the normal acreage of such subdivision, regardless of the actual number of acres therein, and no charges involving the rights of members will be based upon less than units of 10 acres. Each member is entitled to his pro rata share of products regardless of whether a well has been drilled upon his land or not, and the association will deliver a member's share of products in kind or sell for his account at the member's election. Possession and control of all leaseholds and fees were transferred to the association by its members by contracts, which are in effect leases or subleases, for so long a period as oil or gas or other hydrocarbons shall be produced or drilling operations conducted by the association on any of the lands included in the agreement, subject to the right of each member to operate its nonparticipating lands until discovery is made. In accordance with this agreement, the association purchased all the wells and facilities of its members at cost and took possession and control of all the properties April 1, 1931. A map, upon which was delineated two lines, the inner red and outer blue, was made a part of the agreement. The red line was intended to approximate the 6,500-foot contour of the top of the Temblor oil sand and cannot be reduced, although it may be expanded to approximate the same contour upon the basis of later information. The blue line was intended to ultimately approximate the productive limits of the field and at all times to define the maximum area of participating acreage.

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2416 RAILROAD STREET HOUSTON, TEXAS

Over 200 East Texas Wells Still Unconnected; Overproduction Reported Yet Unchecked

By L. E. BREDBERG

DALLAS, Tex., Dec. 5.—The East Texas pipe line committee, headed by the new chairman, Leslie McKay, chief deputy supervisor of the Railroad Commission, met at Dallas on December 3 to give consideration to over 200 unconnected wells, but little, if anything, was accomplished in that respect, five of the major purchasers not only stating that they would take less oil from the field, but that they desired to disconnect from many leases. Many of the unconnected wells will produce, the oil selling below the market price. Not only will many of those wells continue to produce, but they will no doubt produce at a higher rate than the present per well allowable of 37 bbls. for it is an established fact that the oil theft bureau, which has been merged with the general force of commission men in the field, all being placed under Homer Pierson who was put in charge of the antitheft bureau, has not prevented overproduction regardless of statements issued to the contrary. Building of more small local refineries to handle excess crude, more tank car shipments, and continued hauling of oil by truck bears out this statement which is made by many men who are in the field in position to know the workings of the commission, and also to check production, pipe line runs, refinery runs, and tank car shipments.

With the pipe line committee failing to acquire connections from any of the major purchasers in the field, no relief is in sight for these unconnected, and conditions are becoming more serious each day, with an average of over 100 wells being completed each week.

May Delay New Plan

The new proration plan can hardly be put into effect this month, and until that plan becomes workable and applied to the field the present per well basis will have to be retained. With over 9,200 producers in the field now, and the per well allowable set at 37 bbls. per well, the daily total production of the field runs over 15,000 bbls. more than the daily allowable of 325,000 bbls. set for the field. The per well allowable will have to be cut to meet the daily allotment which will also have to be cut to meet the lower nominations of the purchasing companies.

The Conroe Field, located near tidewater, has affected East Texas just as East Texas affected West Texas and other remotely located fields in the State, consequently East Texas may continue to expect to be handicapped by Conroe from now on.

Two of the major purchasing companies making nominations in East Texas nominated to take even less oil than previously, and less than their own current production. The Humble Oil & Refining Co. was the larger purchaser of the two. It holds much of the proven acreage in the Conroe Field, and is one of the largest producers in that field, its associate company, the Humble Pipe Line Co., has a line out of the field to docks at Houston, approximately 32 miles distant.

At the pipe line meeting in Dallas, Saturday, F. W. Burford of the East Texas Refining Co. was named vice chairman for the Kilgore area; J. B. Allman of The Texas Company for the Henderson area and N. B. Moore of the Empire Oil & Gas Co. for the Longview and Gladewater areas. The chairman, as well as the entire committee have a difficult task to provide connections for the unconnected wells, the committee appearing at the end of its rope at this time.

Crude Oil Storage

A crude oil storage report, issued as of November 20, 1932, shows the following crude stored in nine East Texas counties, including the Van Field in Van Zandt County:

County—	Stock	Room	Capacity
Anderson	36,190	73,810	110,000
Cherokee	14,470	150,530	165,000
Gregg	1,951,750	2,555,250	4,507,000
Nacogdoches	33,600	136,400	220,000
Rusk	604,750	2,568,250	3,173,000
Shelby	525,000	65,000	590,000
Smith	115,210	314,790	430,000
Upshur	34,400	95,600	130,000
Van Zandt	264,460	443,540	708,000
Total	3,629,830	6,403,170	10,033,000

Completions and Locations

One hundred and two wells were completed in the field during the week, and 111 locations were staked for another potential crop of producers. The density of the field is now one well to every 12.6 acres, the 25 largest producers in the field having an average of one well to every 14.9 acres while all others have one well to every 9.31 acres.

Another large purchase was reported during the week, the Tidal Oil Co. purchasing seven tracts covering 257 acres, including 28 producers, in Rusk and Gregg Counties, for which they paid $17,000 per well. The purchase was made from the Republic Production Co., and gives the purchaser a total of 311 producers in the field, with 4,017 proven acres. This is the second large recent purchase made by the company in East Texas. The company also recently closed a deal for a large amount of acreage in the Conroe Field of Montgomery County.

Leon County Wildcat

Shell Petroleum Corp. and others' No. 1 Phillips in the Swayze Survey, near Centerville, in Leon County, continues as the center of attraction in the entire East Texas district. Last reports state that it is coring in shale at 6,116 feet after drilling plug at 6,087 feet. A sand core was reported in this column last week, but no reports have been received in regard to coring more sand. Little information can be gained on the well, but coring will probably be carried down to the Georgetown lime unless a highly saturated sand is encountered and the well starts flowing. If no such body of sand is logged and the Georgetown is topped, it will then be plugged back to around 6,087 or 6,054 feet, where it cored oil saturated sand, in an effort to make a producer at that depth.

No leases can be obtained near the well, but brokers have been buying up acreage as near as possible, surrounding the block, and in many parts of the county. Royalty near the well has been rocketing upward, but few deals have been registered so far.

Acreage in the 17,500-acre block surrounding the well is supposed to be held by the following: Shell Petroleum Corp., one-half interest; Humble Oil & Refining Co., one-sixteenth interest; Darby Petroleum Co., one-eighth interest; Frank Buttram, one-sixteenth interest; J. H. Gardner, one-thirty-second interest; Penn Oil Co. and Black, five-thirty-seconds interest.

Joiner and others' No. 1 Blackwell in the H. Dunnetelle Survey, Delta County, was abandoned this week at a total depth of 3,355 feet. T. L. Wynn and others' No. 1 J. A. Nash in the Juan Trevina Survey, Kaufman County, was also abandoned. Total depth is 2,508 feet. Woodbine sand was topped at 2,270 feet.

T. C. Adams' No. 1 Marwill in the T. H. Smith Survey, Rusk County, was also abandoned. Total depth is 3,704 feet. It topped the Austin chalk at 3,434 feet, going out of it at 3,543 feet. Georgetown lime was topped at 3,685 feet. This was an interesting wildcat test and checks off an area considered as having producing possibilities.

Ryan Consolidated Oil Co. abandoned its No. 1 Furrh in Harrison County at a total depth of 5,178 feet. It was in the O'Neal Survey and checks off another possibility east of the East Texas producing area.

Van Zandt County

Gardner Brothers' No. 1 Leonard, drilling northwest of the Van Field in Van Zandt County, was drilling at 5,610 feet, according to latest reports from the test. This is an interesting Trinity sand test on a lease formerly held by the Pure Oil Co.

Wood County

Sinclair Prairie Oil Co.'s No. 1 M. R. Sayner in the J. M. Chandler Survey, Wood County, is shut down at 4,379 feet. It made this much hole in 11 days' time, the Manahan Drilling Co. making record hole. Parriott and others' No. 1 Harvey in the M. H. Ussery Survey, drilling on the same structure, were drilling at 4,475 feet, according to the latest reports. The two tests have been closely watched for developments, owners of the last named test coring often and observing core closely for principal formations and changes made.

Ellis County

In Ellis County, George Beasley and others have assembled about 2,000 acres centering about 2 miles northeast of Ennis in the vicinity of a dry hole drilled on the Cerf farm by the Wortham Petroleum Co. Total depth of that hole is 2,260 feet.

Fannin County

J. D. Wilson of Fort Worth has assembled 1,500 acres for Verne Dumas for a 7,000-foot test in Fannin County, the test to be drilled after Dumas completes test now drilling in Grayson County.

Freestone County

Sun Oil Co. has paid off on leases taken by Bill Reiter around the town of Dew in Freestone County and, according to reports, will start a test within the next few weeks. Contract calls for a test to be started by May 1, 1933.

McCormick and others of Overton have taken over the old Green No. 1 Gossett in Henderson County for 1,000 acres around the test and have agreed to carry the test on down to 3,600 feet from the present total depth of 3,328 feet.

T. W. Davidson of Dallas has assigned lease and one-half of the royalty on about 900 acres to C. B. Gochee of Longview, who in turn assigned a one-half interest in the acreage to M. F. Flannigan of the same place for a test which is to be started by January 15, 1933. The acreage is located on the Upshur-Harrison County line in the A. Johnson, J. W. Britton, William McFadden, T. P. Bullock, J. H. Evitts, T. F. Keenan, J. M. House, J. Dodge and Francis Bonnen Surveys.

The Humble Oil & Refining Co. failed to obtain a community lease on the townsite of Talco in Titus, so is taking leases on all town lots which owners will lease.

COMPLETIONS IN EAST TEXAS

North Gregg County

Atlantic Oil Production Co.'s No. 19-A Burnside, top sand 3,532 feet, initial production 64 bbls. per hour through tapered tubing, total depth 3,552 feet; No. 20-A Burnside, top sand 3,529 feet, initial production 64 bbls. per hour through tapered tubing, total depth 3,549 feet; No. 35 Moore, top sand 3,515 feet, initial production 64 bbls. per hour through tapered tubing, total depth 3,536 feet; No. 37 Moore, top sand 3,520 feet, initial production 64 bbls. per hour through tapered tubing, total depth 3,537 feet; No. 38 Moore, top sand 3,515 feet, initial production 64 bbls. per hour through tapered tubing, total depth 3,540 feet. Barnsdall Oil Co.'s No. 9 G. E. Adams, top sand 3,589 feet, initial production 115 bbls. per hour through open tubing, total depth 3,650 feet. M. G. Blalock's No. 2 State, top sand 3,453 feet, initial production 45 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,480 feet. East Texas Oil Co.'s No. 5 P. C. Castleberry, top sand 3,573 feet, initial production 40 bbls. per hour through tapered tubing, total depth 3,610 feet. Foundation Oil Co.'s No. 2 L. Willis, top sand 3,637 feet, initial production 75 bbls. in 30 minutes through open 2-inch tubing, total depth 3,659 feet. Groveman and Dorian's No. 2 State, top sand 3,427 feet, initial production 35 bbls. in 15 minutes through open tubing, total depth 3,465 feet. Gulf Production Co.'s No. 29 Judge, top sand 3,525 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,549 feet. A. R. Hancock's No. 2 E. H. Bramley, top sand 3,492 feet, initial production 175 bbls. per hour through open tubing, total depth 3,514 feet. Humble Oil & Refining Co.'s No. 8 J. F. Howles, top sand 3,594 feet, initial production 72 bbls. per hour through three-quarters inch tubing choke, total depth 3,638 feet.

Humble Oil & Refining Co.'s No. 5 J. M. McFarland, top sand 3,560 feet, initial production 101 bbls. per hour through three-quarters inch tubing choke, total depth 3,580 feet. Lee Brothers' No. 1 Sam Kay, top sand 3,663 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,676 feet. Lester and Duffield's No. 4 J. Moore, top sand 3,556 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,589 feet. Magnolia Petroleum Co.'s No. 4 J. Allen, top sand 3,648 feet, initial production 132 bbls. per hour through 1½-inch tubing choke, total depth 3,657 feet; No. 10 E. H. Bramley, top sand 3,500 feet, initial production 156 bbls. per hour through open tubing, total depth 3,512 feet; No. 9 W. E. Jones, top sand 3,660 feet, initial production 152 bbls. per hour through open tubing, total depth 3,678 feet; No. 8 Todd-Stinchcomb, top sand 3,503 feet, initial production 154 bbls. per hour through open tubing, total depth 3,511 feet. Rancho Oil Co.'s No. 2 J. M. Wheeler, top sand 3,610 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,660 feet.

Shell Petroleum Corp.'s No. 7 Akin, top sand 3,538 feet, initial production 22 bbls. per hour through tapered tubing, total depth 3,610 feet; No. 13 W. T. Burnside, top sand 3,507 feet, initial production 17 bbls. in 30 minutes through tapered tubing, total depth 3,547 feet; No. 10 A. V. King, top sand 3,529 feet, in-

itial production 18 bbls. in 30 minutes through tapered tubing, total depth 3,542 feet. Simms and Stanolind Oil & Gas Co.'s No. 23-B J. J. Flewellen, top sand 3,652 feet, initial production 100 bbls. per hour through open tapered tubing, total depth 3,662 feet. Stanolind-Simms-Peachblossom's No. 5 Akin, top sand 3,535 feet, initial production 40 bbls. in 27 minutes through open tubing, total depth 3,629 feet. Sun Oil Co.'s No. 3 W. L. Fuller, top sand 3,653 feet, initial production 37 bbls. per hour through tapered tubing, total depth 3,700 feet; No. 8 J. T. Lodden, top sand 3,641 feet, initial production 28 bbls. per hour through tapered tubing, total depth 3,669 feet. Superior Oil Co.'s No. 9-A Pritchard, top sand 3,515 feet, initial production 50 bbls. in 15 minutes through open tubing, total depth 3,558 feet. The Texas Company's No. 5 Phillips, top sand 3,629 feet, initial production 98 bbls. per hour through open tubing, total depth 3,635 feet. Yount-Lee Oil Co.'s No. 3 M. McKinley, top sand 3,548 feet, initial production 81 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,568 feet.

South Gregg County

Blue Star Oil Co.'s No. 6-E Sabine River, top sand 3,519 feet, initial production 70 bbls. per hour through three-quarters inch tubing choke, total depth 3,545 feet; No. 6-F Sabine River, top sand 3,517 feet, initial production 72 bbls. per hour through three-quarters inch tubing choke, total depth 3,545 feet; No. 6-L Sabine River, top sand 3,520 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,550 feet; No. 7-B Sabine River, top sand 3,423 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,503 feet. Delta Drilling Co.'s No. 1 L. D. Crim, top sand 3,538 feet, initial production 35 bbls. per hour through open tubing, total depth 3,580 feet. Gulf Production Co.'s No. 6 A. Nichols, top sand 3,625 feet, initial production 53 bbls. per hour through three-quarters inch tubing choke, total depth 3,632 feet. Jones and O'Brien's No. 2 J. Prothro, top sand 3,661 feet, initial production 27 bbls. in one-quarter hour through 1-inch tubing choke, total depth 3,670 feet. C. C. Julian and Herold, receiver's No. 4 J. M. England, top sand 3,574 feet, initial production 50 bbls. per hour through open tubing, total depth 3,621 feet. Luttes and others' No. 1 Register, top sand 3,673 feet, initial production 75 bbls. per hour through open tubing, total depth 3,689 feet.

J. E. Mabee's No. 7 M. T. Cole, top sand 3,544 feet, initial production 75 bbls. per hour through open tubing, total depth 3,554 feet. Magnolia Petroleum Co.'s No. 7 King, top sand 3,675 feet, initial production 37 bbls. in five minutes, 1-inch tubing on 3-inch line on casing, total depth 3,677 feet; No. 4 Nancy Radford, top sand 3,629 feet, initial production 152 bbls. through open tubing, total depth 3,635 feet. Mullendore and Berry's No. 2 G. Davis, top sand 3,573 feet, initial production 1,070 bbls. per hour through open tubing, total depth 3,590 feet. P. T. Bond, receiver's No. 2 O. Prothro, top sand 3,646 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,670 feet. E. J. Raddats' No. 6 Sabine River, top sand 3,410 feet, initial production 75 bbls. per hour through open tubing, total depth 3,470 feet. Rhoades Drilling Co.'s No. 7 Sabine River, top sand 3,514 feet, initial production 30 bbls. in one-half hour through 1-inch tubing choke, total depth 3,530 feet; No. 2 Sabine River, top sand 3,440 feet, initial production 30 bbls. in one-half hour through 1-inch tubing choke, total depth 3,458 feet.

Shell Petroleum Corp.'s No. 12-A B. F. Laird, top sand 2,935 feet, initial production 21 bbls. in one-half hour through open tapered tubing, total depth 3,569 feet. Sinclair Prairie Oil Co.'s No. 4 A. A. King, top sand 3,435 feet, initial production 40 bbls. in 40 minutes through open tubing, total depth 3,475 feet; No. 5 A. A. King, top sand 3,425 feet, initial production 40 bbls. in one-quarter hour through open tubing, total depth 3,462 feet. A. Snyder and Ashton's No. 1 H. Adkins, top sand 3,637 feet, initial production 65 bbls. per hour through 1-inch tubing choke, total depth 3,648 feet. The Texas Company's No. 9 H. T. Elder, top sand 3,640 feet, initial production 85 bbls. in 55 minutes through open tubing, total depth 3,670 feet. Tidal Oil Co.'s No. 17 Bivens, top sand 3,632 feet, initial production 132 bbls. per hour through open tubing, total depth 3,640 feet. Wolf and Bradley's No. 3 M. T. Cole, top sand 3,530 feet, initial production 65 bbls. per hour through three-quarters inch tubing choke, total depth 3,546 feet.

North Rusk County

Donaghue, receiver's No. 3 William Futch, top sand 3,684 feet, initial production 40 bbls. in 25 minutes through open tubing, total depth 3,686 feet. Humble Oil & Refining Co.'s No. 7-A B. F. Laird, top sand 3,571 feet, initial production 106 bbls. per hour through three-quarters inch tubing choke, total depth 3,634 feet; No. 21-B S. S. Laird, top sand 3,554 feet, initial production 55 bbls. per hour through open tubing, total depth 3,634 feet; No. 24-B S. S. Laird, top sand 3,542 feet, initial production 42 bbls. per hour through three-quarters inch tubing choke, total depth 3,628 feet. Lucy Petroleum Co.'s No. 2 Gill, top sand 3,735 feet, initial production 48 bbls. per hour through three-quarters inch tubing choke, total depth 3,740 feet. McMahon and others' No. 3 D. Willis, top sand 3,615 feet, initial production 90 bbls. per hour through open tubing, total depth 3,618 feet. Stanolind Oil & Gas Co.'s No. 5 Rena Christian, top sand 3,689 feet, initial production 40 bbls. in 25 minutes through open tubing, total depth 3,690 feet.

South Rusk County

T. C. Adams' No. 1 N. L. Marwill, top Pecan Gap 2,620 feet, base 3,007 feet, top Austin chalk 3,434 feet, base 3,543 feet, top Georgetown lime 3,685 feet, drill stem test from 3,548 to 3,704 feet, open 25 minutes tested three joints mud, no show oil or gas, dry and abandoned, total depth 3,704 feet. Ajo Oil Co.'s No. 2-B Joe Lee, top sand 3,756 feet, initial production 40 bbls. in 29 minutes through open 2-inch tubing, total depth 3,765 feet. American Liberty Oil Co.'s No. 10 Fair, top sand 3,620 feet, initial production 110 bbls. per hour through 2-inch tubing choke, total depth 3,653 feet; No. 3-C Pinkston, top sand 3,614 feet, initial production 40 bbls. per hour through open 2-inch tubing, total depth 3,682 feet. P. D. Bowlen's No. 1 N. L. Marwill, top sand 3,670 feet, initial production 41 bbls. per hour through twenty-five-sixty-fourths inch tubing choke, total depth 3,683 feet. Culps and others' No. 2 M. Clay, top sand 3,553 feet, initial production 30 bbls. per hour through open tubing, total depth 3,678 feet.

Gant and Garvin's No. 1 Jerry Simmons, top sand 3,522 feet, initial production 30 bbls. in nine hours through open 2-inch tubing by heads, total depth 3,636 feet. Gulf Production Co.'s No. 3 Walter Shaw, top sand 3,728 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,737 feet. Humble Oil & Refining Co.'s No. 1-B R. A. Barksdale, top sand 3,601 feet, initial production 59 bbls. per hour through 2-inch tubing, total depth 3,722 feet; No. 1-B R. A. Barksdale, top sand 3,601 feet, initial production 59 bbls. per hour through 2-inch tubing, total depth 3,722 feet; No. 3 E. S. Holt, top sand 3,736 feet, initial production 39 bbls. per hour through three-quarters inch tubing choke, total depth 3,786 feet; No. 22-A Kangerga, top sand 3,644 feet, initial production 32 bbls. in one-half hour through three-quarters inch tubing choke, total depth 3,675 feet; No. 1 M. A. Neal, top sand 3,666 feet, initial production 20 bbls. per hour swabbing, total depth 3,752 feet; No. 15-A S. A. Plowman, top sand 3,648 feet, initial production 37 bbls. in one-half hour through three-quarters inch tubing choke, total depth 3,668 feet; No. 5 Walter Shaw, top sand 3,706 feet, initial production 40 bbls. in one-half hour through three-quarters inch tubing choke, total depth 3,710 feet; No. 3 Jessie White, top sand 3,630 feet, initial production 62 bbls. per hour through three-quarters inch tubing choke, total depth 3,743 feet. Hunt Production Co.'s No. 5-A R. J. Vinson, top sand 3,626 feet, initial production 20 bbls. per hour pumping, John Darley Survey, total depth 3,706 feet. Sherman Hunt's No. 2 R. J. Vinson, top sand 3,630 feet, initial production 20 bbls. per hour through 2-inch tubing, total depth 3,710 feet.

C. H. Lyons' No. 2 Moore, top sand 3,561 feet, initial production 30 bbls. per hour through open 2-inch tubing, total depth 3,598 feet. Mid-Kansas Oil & Gas Co.'s No. 47 M. M. Cross, top sand 3,598 feet, initial production 80 bbls. per hour on 2-inch lead, total depth 3,626 feet; No. 9 M. C. DeGuerin, top sand 3,598 feet, initial production 84 bbls. per hour on 2-inch lead, total depth 3,656 feet; No. 3 Peter Tipps, top sand 3,661 feet, initial production 76 bbls. per hour on 2-inch lead, total depth 3,663 feet. The Texas Company's No. 11 A. W. Kersh, top sand 3,628 feet, initial production 90 bbls. per hour through open 2-inch tubing, total depth 3,631 feet. Tidal Oil Co.'s No. 3 O. Whittington, top sand 3,600 feet, initial production 12 bbls. per hour through open tubing, total depth 3,632 feet; No. 11 Pinkston, top sand 3,720 feet, initial production 31 bbls. in one-quarter hour through 2-inch tubing, total depth 3,736 feet; No. 4 O. Whittington, top sand 3,650 feet, initial production 6 bbls. in one-quarter hour through 2-inch open tubing, total depth 3,680 feet.

Smith County

Amalgamated Oil Co.'s No. 4 Cook, top sand 3,718 feet, initial production 35 bbls. in 10 minutes through three-quarters inch tubing choke, total depth 3,721 feet. Alex McCutcheon's No. 1 Jessie Cole, top sand 3,773 feet, initial production 75 bbls. in one-half hour through 2-inch tubing, total depth 3,785 feet. Sinclair Prairie Oil Co.'s No. 9 A. Wiley, top sand 3,796 feet, initial production 40 bbls. in two and one-half hours' swabbing, total depth 3,798 feet; No. 12 D. Wright, top sand 3,727 feet, initial production 45 bbls. in one-quarter hour through open 2½-inch tubing, total depth 3,731 feet. Sun Oil Co.'s No. 13 O. W. Knight, top sand 3,616 feet, initial production 60 bbls. per hour through open tapered tubing, total depth 3,634 feet. The Texas Company's No. 7 M. Blackwell, top sand 3,704 feet, initial production 50 bbls. per hour through open 2-inch tubing, total depth 3,716 feet. W. E. Skinner's No. 1 Jessie Cole, top Pecan Gap 2,779 feet, base 3,112 feet, top Austin chalk 3,623 feet, dry and abandoned, total depth 3,700 feet, James Jordan Survey, formerly Ed Wallace's well.

Upshur County

Alma Petroleum Co.'s No. 3 J. Watson, top sand 3,672 feet, initial production 35 bbls. in one-half hour through three-quarters inch tubing choke, total depth 3,681 feet. Everetts Oil Co.'s No. 4 A. J. Sanders, top sand 3,624 feet, initial production 70 bbls. per hour through three-quarters inch tubing choke, total depth 3,658 feet. Humble Oil & Refining Co.'s No. 5 A. O. Phillips, top sand 3,695 feet, initial production 30 bbls. per hour through three-quarters inch tubing choke, total depth 3,703 feet. Magnolia Petroleum Co.'s No. 8 O. F. Smith, top sand 3,591 feet, initial production 120 bbls. per hour through 1-inch tubing choke, total depth 3,602 feet. Shell Petroleum Corp.'s No. 13 C. C. Landers, top sand 3,684 feet, initial production 27 bbls. per hour through tapered tubing, total depth 3,694 feet. M. L. Stevens and others' No. 1 J. Hargroves, top sand 3,762 feet, initial production 60 bbls. per hour through open tapered tubing, total depth 3,767 feet. J. C. Werby and Refugio's No. 1 Ben H. Reed, top sand 3,603 feet, initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,609 feet.

WILDCAT COMPLETIONS

Delta County

Joiner and others' No. 1 Blackwell, top of lime 32 feet, dry and abandoned, total depth 3,355 feet.

Kaufman County

T. L. Wynn and others' No. 1 J. A. Nash, top Austin chalk 1,285 feet, base 1,803 feet, top Woodbine sand 2,270 feet, dry and abandoned, total depth 2,508 feet.

Red River County

Johnson Drilling Co.'s No. 1 Antone, location abandoned.

OKLAHOMA WELL LOGS READY

The U. S. Geological Survey division with offices in the new Federal Building in Tulsa, announces that it has a complete file of well logs of all wells drilled in the State of Oklahoma, which are available during office hours. The division recently moved to Tulsa from Muskogee.

East Central Texas Wildcats

Week Ending December 5

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
Barclay et al's No. 1 J. C. Beard, 150 ft. out of most westerly NE cor. of 178-ac. lease, J. Trimmer Sur.	Prepare to spud.
W. H. Rosier's No. 1 W. H. Henke, 43,115 varas S and 294 varas W of NE cor. of Blk. No. 12, Anderson County School Lands Sur.	S.D. 5,405 ft.
C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in 8½ of 129-ac. tract, M. Main Sur.	T.D. 1,538 ft.

ANGELINA COUNTY

Crosbie et al's No. 1 John C. Davis, 150 ft. from N of center of tract and survey, John H. Graham Sur.	Drlg. plug; T.D. 645 ft.
W. J. Chandler's No. 1 L. J. Dearman, 350 ft. from S and W lines of 20-ac. tract, J. T. Peavy Sur.	S.D. 1,223 ft.

BOWIE COUNTY

Roy Anderson's No. 1 Dyk.., 2 miles W of Texarkana, M. Dykes Sur.	Tested dry; no show 2,816 ft.; drill stem test 2,810-35 ft.; S.D. 2,835 ft.
Tom Bell et al's No. 1 C. M. Moss, 1,800 ft. from N line and 2,160 ft. from W line of 465-ac. tract and survey, O. D. Walton Sur.	Derrick.

CHEROKEE COUNTY

Barkley Tate et al's No. 1 H. E. Neal, 330 ft. from N and W lines of tract, J. M. Prosella Sur.	Derrick.
Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur.	S.D. 1,550 ft.
Davis et al's No. 2 Annie Kelly, 631 ft. W of No. 1, M. De Los Santos Coy Sur.	Derrick.
Hooper et al's No. 1 Doctor Overton, 330 ft. from N and E lines of tract and 330 ft. out of most easterly NE cor. of survey, Wesley Dikes Sur.	Drlg. 1,300 ft.
L. J. Hopcroft et al's No. 1 J. R. Taylor, 2,600 ft. from E line and 2,000 ft. from S line of survey, G. M. Doherty Sur.	Location.
Loring Oil Co.'s No. 1 F. M. Swearingen, 330 ft. from S and E lines of 68-ac. tract, 3,800 ft. from W line and 330 ft. from S line of survey, Oliver Lund Sur., 1 mile SW of Maydelle	Fishing 4,140 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 J. A. Layne, 316 ft. from N line and 330 ft. from W line of lease, M. D. L. S. Coy Sur.	Top Austin chalk 3,577 ft.; T.D. 3,600 ft.
Mid-Tex Oil Co.'s No. 1 A. Pace (formerly Clopton), 286 ft. from N line and 330 ft. from most northerly E line of 40-ac. lease, Wesley Dikes Sur.	Top sand 3,662 ft.; waiting on csg.; T.D. 3,665 ft.
Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur.	Prepare to deepen; T.D. 3,600 ft

(Continued on Page 47)

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Ector County Well Opening Pool Looks Better; Crockett County Deep Test Has Showings

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Dec. 5.—L. C. Harrison, Fred Turner and others' No. 1 Addis, in Section 35, Block 43, Township 2s, T.&P. Survey, Ector County, is now shut in after drilling to 3,927 feet and the well flowing 280 bbls. in 24 hours ending 7 a.m. December 5. The last increase in oil was logged at 3,927 feet, the well flowing 72 bbls. the last two hours it was producing. The well began spraying oil on November 21 at 3,862 feet. It was then shut down while storage was erected. Increases in gas and oil were encountered as drilling was resumed, more pay being logged from 3,885-3,900 feet, tools sticking in the hole at the latter depth, causing a short fishing job.

The well has been looking better during the past three days, and a better pay formation is expected still deeper. It definitely opens the third pool for the county and the first major strike for the Permian Basin in two years.

The town of Odessa will reap considerable benefit from the new discovery, as it is only 5 miles east of the well, on the main highway leading through the district, and on the T.&P. Railway which transports much oil out of the district and large shipments of material into the West Texas fields. The well is only slightly over a mile north of the railroad and a short distance from two main pipe lines, one owned by the Atlantic Pipe Line Co. and the other by the Magnolia Pipe Line Co.

There were seven locations staked in the Permian Basin during the week, two of these by the Continental Oil Co. and Group No. 1 Oil Corp. for two more deep tests in the Big Lake Field, Reagan County.

Big Lake Field

Group No. 1 Oil Corp.'s No. 1-B University, the first Ordovician producer drilled in the Big Lake Field, was four years old on December 1. It has produced approximately 2,800,000 bbls. of high gravity sweet crude oil up to the present time, now producing around 450 bbls. per day, pinched.

Twelve deep producers have been drilled in the field, none of them defining limits of the Ordovician pay horizon. One is going deeper, now drilling below 9,485 feet, and expected to go to 12,000 feet. This well is the farthest southwest of the deep producers and stopped flowing several months ago, consequently the companies decided to carry it deeper in an effort to pick up better pay horizons.

All the deep producers cover an area of less than a square mile, and much is expected of the deep pay zone in this field before it is defined.

Crockett County

The deep test of the Stanolind Oil & Gas Co. on the Todd ranch in Crockett County is reported to have had some oil and gas showings, and is drilling below 7,300 feet. Nothing definite can be obtained on the well, which is located on a unitized block held by several major producing companies. Location is in Section 67, Block UV, G.C.&S.F. Survey, approximately 12 miles southeast of the Powell Field and approximately 32 miles southeast of the Big Lake Field.

Winkler County

Sid Richardson and others' No. 2 Sealy estate in southern Winkler County extended the proven area of the O'Brien Pool of Ward County over into the former county when it came in flowing at the rate of around 25 bbls. per hour from pay topped at 3,105 feet, where tools stuck in the hole.

It is approximately 1¼ miles northeast of the nearest producers of the Gulf Production Co. in the pool, Section 94, Block A, G.&M.M.B.&A. Survey. It is less than 1 mile north of Sinclair Prairie Oil Co.'s No. 1 Sealy, a dry hole in Section 95, and a mile and a quarter south of Danciger Oil & Refining Co. and others' No. 1 Sealy in Section 93, another dry hole. Another test in Section 92 was also abandoned. Total depth was 3,305 feet.

HUMBLE'S BUYING PROGRAM

HOUSTON, Tex., Dec. 5.—Humble Oil & Refining Co., effective December 1, resumed purchase of 100 per cent of all the oil run from its connections in North Texas, Ranger, Shackelford, Jones and Fisher Counties. In the Panhandle and East Texas it will continue to purchase only 60 per cent of the runs, storing the remainder of the runs for the account of its connections. The 60-40 purchase policy has been in effect in all these districts since September 16.

New Allowables

New allowables for the West Texas fields as set out by recent orders of the Railroad Commission are as follows:

Yates Field, 405 wells, 65,000 bbls. per day, making an average of 160.49 bbls. per well.

Winkler County, 463 wells, 27,000 bbls., 58.31 bbls. per well.

Howard-Glasscock, 536 wells, 14,000 bbls., 26.11 bbls. per well.

Ector, 82 wells, 4,000 bbls., 48.78 bbls. per well.

Church and Fields and McElroy, 340 wells, 13,000 bbls., 38.23 bbls. per well.

Reagan, 231 wells, 20,000 bbls., 86.58 bbls. per well. (This includes deep production also.)

All other pools, 14,000 bbls.

Concho County

Oil found in Mintex Oil Co.'s No. 1 Waring estate test in Section 163, T.&N.O. Survey, Concho County, tests 40 gravity. The test has been shut down at 2,580 feet after topping a sandy lime at 2,578 feet and filling 1,600 feet with fluid, 200 feet of which is water. Elevation is 2,144 feet. It is now waiting for pumping equipment.

RANGER AND WICHITA FALLS

The Texas Pacific Coal & Oil Co.'s Fee Pool opened in the Durocher Survey, east of Ranger in Eastland County, has been extended 1,500 feet northwest by the company's No. 2 Allen in the Robinson Survey which came in making 200 bbls. of oil and 250,000 feet of gas from pay topped at 3,068-3,102 feet. No. 1 Allen, located in the Bissell Survey, is a 4,000-foot southern extension to the pool, coming in for 50 bbls. with 500,000 feet of gas at 2,970-3,100 feet. There are nine wells in the pool which is held entirely by this company.

Acid treating of wells in the Breckenridge district has assumed considerable proportions. About 50 wells have been and are being treated, only two failures having been reported to date on wells treated.

New Allowables

The Ranger district has been given an allowable of 31,500 bbls., and the Wichita Falls district 56,000 bbls. The Humble Oil & Refining Co. which has been purchasing only 60 per cent of the allowable in these districts has rescinded that order in both districts and will take around 10,700 bbls. per day, increasing its takings to six-sevenths of the per well allowable, which will be of considerable help to operators in these two districts.

Bill Knight and others, of Wichita Falls, drilled their No. 1 Portwood 2 miles south of Megargel in Section 1,581, T.&L. Survey, Archer County, extending the Darlick Pool 1,400 feet to the southwest. Pay was topped at 1,350-57½ feet and the hole filled 600 feet. It was then drilled to 1,359 feet and filled and flowed over the derrick in 30 minutes. It is estimated good for 750 bbls. It is located in an intensly drilled area, and between the pool proper and a 75-bbl. well formerly drilled by The Texas Company 3,000 feet southwest.

J. I. Staley and others, of Wichita Falls, have drilled in a wildcat in their No. 1 W. L. Andrews in south Archer County,and 2 miles west of the first producer ever drilled in the county, which was located on the Andrews farm. It was completed March 18, 1912.

The test struck an oil sand from 992-1,002 feet filling 850 feet with oil and looking like a 100-150-bbl. well in an area in which many dry holes have been drilled.

Foard County

The Texas Company's No. 3 Johnson in Foard County is running very high on formation compared to the company's No. 1 test and encountered its first gas at 2,949 feet, logging an increase at 2,965-70 feet, gas increasing to around 2,500,000 feet, with a couple of traces of oil between 2,949-3,088 feet. Between 3,088-98 feet it struck 30,000,000 feet of gas which will be killed if possible to allow drilling through the gas horizon and setting 8¼-inch casing. It is now shut down for repairing rig.

COMPLETIONS IN WEST TEXAS

Glasscock County

Mann's No. 1 Powell, top lime 2,745 feet, dry and abandoned, total depth 3,400 feet, elevation 2,558 feet. Phillips Petroleum Co.'s No. 1 Baker, top pay 2,120 feet, initial production 93 bbls. per hour pumping, total depth 2,132 feet, elevation 2,575 feet.

Loving County

Columbia Oil & Gas Co.'s No. 2 Wheat, top salt 785 feet, top lime 4,272 feet, initial production 180 bbls., shot 180 quarts 4,302-44 feet, total depth 4,344 feet.

Pecos County

Kane Production Co.'s No. 1 Pecos Valley, top salt 935 feet, dry and abandoned, total depth 1,651 feet.

Ward County

Barnsdall Oil Co.'s No. 3 Henry, top pay 2,074 feet, initial production 31,250,000 feet of gas, total depth 2,076 feet, top salt 900 feet. Caprinto and others' No. 1 Beatty, top salt 1,050 feet, dry and abandoned, total depth 2,498 feet, elevation 2,532 feet. Gulf Production Co.'s No. 13 Hutchings, elevation 2,653 feet, top pay 2,570 feet, initial production 385 bbls. in 22 hours through 2-inch tubing, total depth 2,754 feet. Texas Pacific Coal & Oil Co.'s No. 5 James, top salt 1,070 feet, top pay 2,289 feet, initial production 70 bbls. through 2-inch tubing, total depth 2,400 feet.

Winkler County

Magnolia Petroleum Co.'s No. 3 Scarborough (old well deepened), new total depth 3,143 feet, increase in oil at 2,902-27 feet, initial production 97 bbls.

COMPLETIONS IN PANHANDLE

Carson County

Osborne's No. 1 Byrum, top pay 2,052

Wildcat Operations in West Texas

Week Ending December 5

BORDEN COUNTY

Company, well, farm name, section and block—	Remarks:
Westyde Investment Co.'s No. 1 Looney, 990 ft. from S and E, Sec. 15, Blk. 31, Twp. 4n. T.&P. Sur.	S.D. 3,675 ft.; small show gas 3,580 ft.; small show oil 3,585-90 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 46, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Joiner's No. 1 McIntire, 663 ft. from S and 2,390 ft. from E, Sec. 31, Blk. 352, W. J. Mitchell Sur.	S.D. 425 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 330 ft. from N and 2,500 ft. from E of Sec. 16, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 55, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

CONCHO COUNTY

Beasley et al's No. 1 Waring Estate, 400 ft. from N and E, Sec. 163, T.&N.O. Sur.	T.D. 2,580 ft.; putting on pump; 1,300 ft. fluid in hole, 200 ft. water.
Simmons et al's No. 1 Schultz, 150 ft. from W and center N and S of E half of J. Weber Sur., Abst. 154	S.D. 1,410 ft.

CRANE COUNTY

Gulf Prod. Co.'s No. 10 McElroy, 1,320 ft. from S and E Sec. 196, Blk. F	Drlg. 2,365 ft.

CROCKETT COUNTY

Chambers et al's No. 1 Hoover, 1,650 ft. N and 330 ft. from E, Sec. 1, Blk. FF, B.&B. Sur.	Drlg. 1,400 ft.
Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and S.D.
Stanolind Oil & Gas Co. et al's No. 1 Todd, 1,370 ft. from N and 1,320 ft. from E, Sec. 67, Blk. UV, G.C.&S.F. Sur.	Drlg. 7,230 ft.
The Texas Company's No. 1 E. B. Ingham, 330 ft. from S and 2,330 ft. from E line, Sec. 36¾, I.&G.N. Sur.	T.D. 2,071 ft.; to set 8¼-in. csg.
J. D. Young Co.'s No. 1 Shannon, 330 ft. from N and W, Sec. 35, Blk. 1, G.C.&S.F. Sur.	S.D. 1,500 ft.

CULBERSON COUNTY

Harris & Haun's No. 1 fee	S.D. 2,512 ft.
Milton-Dorsey's No. 1 Biggs, 4,181 ft. from N and 150 ft. from E, Sec. 2, Blk. 112, P.S.L. Sur.	Location.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur.	Shut down.

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and 3,227 feet, total depth 3,263 feet, plugged back to 3,254 feet, initial production 18 bbls. oil and 35 bbls. of water.

Gray County

Graham-Cree and Hoover's No. 1 Barrett, top pay 3,142 feet, initial production 130 bbls., total depth 3,205 feet. Kewanee Oil & Gas Co.'s No. 1-C Adams (old well deepened), old total depth 2,570 feet, new total depth 2,712 feet, plugged back to 2,600 feet, initial production 21 bbls. pumping; No. 1-F Morse, top pay 2,648 feet, initial production 25 bbls. pumping, total depth 2,669 feet, plugged back to 2,664 feet; No. 1-G Morse, abandoned location. The Texas Company's No. 22 Saunders, top pay 2,675 feet, initial production flowed 4,009 bbls. first 24 hours, averaged 3,884 bbls. per day for five days, total depth 2,740 feet.

COMPLETIONS IN RANGER

Callahan County

Gallagher and Lawson's No. 1 A. R. Kelton, dry and abandoned, total depth 775 feet. H. B. House and others' No. 1 Finley, dry and abandoned, total depth 648 feet. J. A. Miller's No. 1 Cutbirth, dry and abandoned, total depth 360 bbls. Perry and others' No. 1 Hatchett, dry and abandoned, total depth 436 feet.

Eastland County

Texas Pacific Coal & Oil Co.'s No. 1 C. E. Allen, oil sand 2,960-97 feet, shot 80 quarts 2,965-97 feet, initial production 40 bbls. oil with 484,000 feet of gas, total depth 3,010 feet; No. 2 Mrs. F. Wallen, oil sand 3,065-3,100 feet, shot 70 quarts 3,065-3,100 feet, initial production 230 bbls. with 241,000 feet of gas, total depth 3,105 feet.

Shackelford County

Bessy's No. 1 Horton, oil sand 660-70 feet, initial production 16 bbls., total depth 670 feet. George Callahan's No. 2 Jeter, oil sand 894-900 feet, shot 15 quarts, initial production 15 bbls., total depth 900 feet. Cross and Wilson's No. 1 Green, dry and abandoned, total depth 902 feet. Freeman and Hampton Oil Co.'s No. 2 Morris and Buie, sandy lime 1,580-90 feet, initial production 45 bbls., total depth 1,590 feet. Lowe and Delaney's No. 5 Alexander, sandy lime 860-70 feet, initial production 5 bbls., total depth 870 feet. Pruitt and others' No. 1 Clausell, dry and abandoned, total depth 710 feet.

COMPLETIONS IN NORTH TEXAS

Archer County

Benson, Benson and Continental Oil Co.'s No. 1 J. N. Prideaux, dry and abandoned, total depth 2,253 feet. R. N. Hamilton's No. 1 Stehlik, dry and abandoned, total depth 600 feet. Houston and Houston's No. 1 Browning, oil sand 451-59 feet, initial production 5 bbls., total depth 459 feet. Morris and Dunn's No. 1 Morbitzer, dry and abandoned, total depth 1,000 feet. Bonner and Kelleher's No. 1 King, dry and abandoned, total depth 1,140 feet. Bridwell Oil Co.'s No. 1 Abercrombie, oil sand 1,207-17 feet, total depth 1,222 feet, plugged back to 1,203 feet, initial production 2½ bbls. oil and 2½ bbls. of water. H. Craig and others' No. 1 J. D. Smyth, dry and abandoned, total depth 938 feet. Jim Fish's No. 1 Fish, oil sand 1,144-50 feet, shot 10 quarts, initial production 3 bbls., total depth 1,150 feet. S. Z. Francis' No. 1 Webb, dry and abandoned, total depth 752 feet. D. T. Monfort's No. 1 Snider, dry and abandoned, total depth 740 feet.

George L. Pace's No. 7 Green, sandy lime 1,151-68½ feet, shot 80 quarts, initial production 35 bbls., total depth 1,168½ feet. R. W. Reynolds' No. 1 King, dry and abandoned, total depth 1,142 feet. Sinclair Prairie Oil Co.'s No. 3 Falls, Bayles, sandy lime 1,112-23 feet, shot 70 quarts, initial production 67 bbls., total depth 1,124 feet. J. G. Steele's No. 1 Kings, dry and abandoned, total depth 1,406 feet. Vigil Oil & Gas Co.'s No. 11 Harmel, dry and abandoned, total depth 1,470 feet.

Clay County

Clower and others' No. 1 Oliver, dry and abandoned, total depth 1,001 feet. W. H. Metzner's No. 1 Thornberry, dry and abandoned, total depth 1,342 feet.

Jack County

A. C. Parks' No. 1 Webb, dry and abandoned, total depth 770 feet.

Cooke County

Danciger Oil & Refining Co.'s No. 1 Davidson, dry and abandoned, total depth 1,503 feet.

Wichita County

P. J. Flynn and others' No. 4 Woodard, dry and abandoned, total depth 968½ feet. John Head's No. 2 Hodges, show oil at 1,746-47 feet, initial production 35 bbls., total depth 1,747 feet. Mogren and Anderson's No. 31 Goetze, oil sand 880-912 feet, initial production 15 bbls., total depth 912 feet. The Texas Company's No. 408 Waggoner, oil sand 1,039-45 feet, initial production 10 bbls., total depth 1,045 feet. Texas State Oil Co.'s No. 1 Shipley, oil sand 1,443 feet, initial production 75 bbls., total depth 1,488 feet.

Young County

Brazelton and others' No. 4 Belknap, dry and abandoned, total depth 751 feet. R. Bruton's No. 1 Jones, dry and abandoned, total depth 673 feet. Dunninger and Leporin's No. 1 Speer, dry and abandoned, total depth 602 feet. Hunter Oil Corp.'s No. 2 Taack, show oil 1,084-93 feet, initial production 15 bbls., total depth 1,093 feet. Iron Mountain Oil Co.'s No. 2 Jordan, oil sand 552-56 feet, initial production 12 bbls., total depth 556 feet; No. 15 Tatum, oil sand 660-68 feet, initial production 10 bbls., total depth 673 feet. Kleiner and HY Oil Co. and others' No. 5 Johnson, oil sand 477-503 feet, initial production 3 bbls., total depth 505 feet. Kleiner and Riggs' No. 15 Larimore, show oil 673-75 feet, initial production 2 bbls., total depth 731 feet. L. F. Kubecka's No. 3 Culler, oil sand 560-67 feet, initial production 3 bbls., total depth 571 feet. T. G. Lester's No. 1 Jones, dry and abandoned, total depth 655 feet. C. C. Mason's No. 1 Lowe, oil sand 88½-93 feet, initial production 10 bbls., total depth 893 feet. J. J. Moran's No. 6 Howard, dry and abandoned, total depth 980 feet. Moran and Wotola's No. 1 Miller, oil sand 772-81 feet, initial production 50 bbls., total depth 781 feet.

James L. Nelson's No. 1 Jordan, dry and abandoned, total depth 861 feet. Petroleum Co.'s No. 1 Taack, dry and abandoned, total depth 800 feet. The Texas Co.'s No. 1 Bird, dry and abandoned, total 877 feet. D. L. Wolf's No. 1 Culbertson, dry and abandoned, total depth 836 feet. Worth Oil Co.'s No. 3 George Garrett, oil sand 502-21 feet, initial production 3 bbls., total depth 521 feet. R. C. Parker's No. 1 Blount, dry and abandoned, total depth 2,218 feet.

MEXICAN OIL OUTPUT LESS

The 1932 oil production of Mexico will be about 2½ per cent lower than last year's output of 33,038,565 bbls., the petroleum department of the ministry of industry, commerce and labor estimates. The department remarks that as world petroleum production has been reduced, it naturally follows that there would be a decrease in Mexican output, but observes that this drop will be slight this year.

Wildcat Operations in West Texas

(Continued from Page 44)

ECTOR COUNTY

Duffey et al's No. 1 Rutledge, 990 ft. from S, 330 ft. from E, Sec. 7, Blk. B-15 ..... Drlg. 3,885 ft.

L. C. Harrison et al's No. 1 Addis, 330 ft. from N and 1,320 ft. from W, Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. .. Fishing 3,901 ft.; flowing 200 bbls. per day.

Landreth Prod. Co.'s Holt, C SW of SE Sec. 15, Blk. 43, Twp. 1n, T.&P. Sur. ..... Drlg. 1,345 ft.

Phillips Pet. Co.'s No. 1 Scharbauer, 990 ft. from S and 330 ft. from W, Sec. 43, Blk. 44, Twp. 2s, T.&P. Sur. .. S.D. 3,757 ft.; flowing 50 bbls. per day; may shoot.

Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E, Sec. 38, Blk. 43, Twp. 3s, T.&P. Sur. ..... S.D. 1,950 ft.

H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G. M. M.Br.&A. Sur. ..... S.D. 3,605 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 ..... Fishing 3,190 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E, Sec. 200, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 6,450 ft.

Southern Oil Co.'s No. 1 Purdue, 990 ft. from S and E Sec. 202, Blk. B, B.B.&C. Sur. ..... T.D. 3,105 ft.; T.P. 3,105 ft.; storage full.

GARZA COUNTY

Southern Oil Corp.'s No. 1 Boren, 990 ft. N, 660 ft. E, Sec. 36, Blk. 5, H.&G.N. Sur. ..... Moving in machine.

GLASSCOCK COUNTY

Empire G. & F. Co.'s No. 1 Hall, 330 ft. from N and 2,290 ft. from W, Sec. 21, Blk. 33, Twp. 2s ..... Drlg. 890 ft.

Llano Oil & Dev. Co.'s No. 1 Edwards, 330 ft. S and E, Sec. 17, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 825 ft.

Noble Drlg. Co.'s No. 1 Baker, 160 ft. from N and 1,116 ft. from E, Sec. 21, Blk. 33, Twp. 2s, T.&P. Sur. ..... Cmtd. csg. 2,080 ft.

Phillips Pet. Co.'s No. 2 Baker, 338 ft. from N and 2,305 ft. from E, Sec. 21, Blk. 33 ..... T.D. 745 ft.; underreaming 10-in. csg.

Shell Pet. Corp.'s No. 2 Phillips, 2,310 ft. from N and 1,650 ft. from E, Sec. 23, Blk. 33, Twp. 2s ..... T.D. 2,162 ft.; running 6⅝-in. csg.

Tribal Oil Co.'s No. 2 Edwards, 348 ft. from S and 2,285 ft. from E, Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,130 ft.

HOWARD COUNTY

Harrison et al's No. 3 Denman, 2,310 ft. from N and 330 ft. from E, Sec. 10, Blk. 30 ..... Drlg. 420 ft.

Myers et al's No. 1 Denman, 2,305 ft. from S and 2,320 ft. from E, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... T.D. 1,560 ft.; rigging up machine.

Mid-Continent Oil & Gas Co.'s No. 1 Denman, 990 ft. from S and 330 ft. from E, Sec. 10, Blk. 30, Twp. 1s, T.&P. Sur. ..... T.P. 2,618 ft.; T.D. 2,813 ft.; shot 290 qts. 2,702-2,813 ft.; swabbing and flowing.

Sinclair Prairie Oil Co.'s No. 3 Dodge, 1,650 ft. from S and 429 ft. from W. Sec. 11, Blk. 30, Twp. 1s, T.&P. .. T.D. 2,800 ft.; putting on pump.

Sinclair Prairie Oil Co.'s No. 4 Dodge, 960 ft. from S and 330 ft. from W, Sec. 11, Blk. 30, Twp. 2s, T.&P. Sur. ..... Location.

HUDSPETH COUNTY

Patillo-Welsh's No. 1 Briggs ..... S.D. 1,135 ft.; may plug.

IRION COUNTY

Bristow et al's No. 2 Nutt, 2,550 ft. N, 1,000 ft. W, Sec. 6, Gonzales County School Lands Sur. ..... Location.

Straughn et al's No. 1 Kaiser, 1,930 ft. from N and 1,390 ft. from W, Sec. 69, H. Cooper Sur. ..... S.D. 501 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-ac. tract in G. Martinez Sur. ..... S.D. 1,005 ft.; temp. abnd.

Condor Pet. Co.'s No. 1 Sayles, 650 ft. from N and 300 ft. from W, Sec. 3, Blk. 20, T.&P. Sur. ..... Drlg. 1,760 ft.

Croft et al's No. 2 Swann, 4,350 ft. from S and 1,700 ft. from E. I. Miley Sur. No. 280 ..... Drlg. 1,410 ft.

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Rig on ground.

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. ..... T.D. 2,240 ft.; underreaming 8-in. csg.

Pope & Anderson's No. 2 Swann, 3,050 ft. from S and 1,120 ft. from E of I. Miley Sur. ..... Drlg. 2,512 ft.; top pay here.

Smart & Reynold's No. 1 Reynolds, 2,500 ft. from N and 150 ft. from W, Sec. 2, W. T. Scott Sur. No. 3 ... S.D. 1,143 ft.

C. S. Spelling et al's No. 1 Lillie, 200 ft. from N and W Sec. 4, E. Miller Sur. No. 3 ..... S.D. 2,030 ft.

Southern Oil Co.'s No. 1 Swann, 1,000 ft. from E and 900 ft. from S. of I. Miley Sur. ..... Rigging up.

Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. ..... Location.

LOVING COUNTY

Adams et al's No. 1 Reagan-McElvain, 2,310 ft. from NW and 1,650 ft. from NE Sec. 84, Blk. 1, W.&N.W. Sur. ..... T.D. 4,087 ft.; running casing.

Eppenauer Drlg. Co.'s No. 1 Victor, 2,310 ft. from NE and 330 ft. from SE Sec. 4, Blk. 2, W.&N.W. Sur. ..... T.D. 4,360 ft.; plugged back to 4,348 ft.; to shoot.

Goldman et al's No. 1 Allen, 330 ft. from NE and NW of Sec. 90, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,885 ft.

Goldman et al's No. 2 Allen, 330 ft. from NW, 2,310 ft. from SW, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Shut down.

Goldman et al's No. 1 Reagan-McElvain, 330 ft. from NE, 2,310 ft. from NW, Sec. 84, Blk. 1, W.&N.W. Sur. .. Shut down.

Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 6, Blk. 56, Twp. 1, T.&P. Sur. .. S.D. 2,280 ft.

Martin et al's No. 1 Wheat, 990 ft. from SW and SE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... T.D. 4,070 ft.; casing collapsed.

Martin's No. 2 Freels, 4,175 ft. from NE and 412 ft. from NW, Sec. 92, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,440 ft.

Miller et al's No. 1 Ferguson, 990 ft. from NE of Sec. 44, Blk. 29 ..... Spudded and S.D.

Thomas' No. 1 Wheat, 2,310 ft. from NW, 990 ft. from NE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... T.D. 4,030 ft.; fishing.

Trinity Drlg. Co.'s No. 1 Wheat, 2,310 ft. from SW, 330 ft. from SE, Sec. 3, Blk. 2, W.&N.W. Sur. ..... S.D. 1,300 ft.

PECOS COUNTY

Cardinal Oil Co.'s No. 3-G Tippett, 660 ft. from S and 330 ft. from E of No. 2 Tippett, Sec. 61, Blk. 194, G.C.&S.F. Sur. ..... T.D. 302 ft.; running 6⅝-in. csg.

Cardinal Oil Co.'s No. 14-E Tippett, 300 ft. from N and 2,460 ft. from E, Sec. 40, Blk. 194, G.C.&S.F. Sur. .... T.P. 353 ft.; T.D. 400 ft.; I.P. 25 bbls. day.

Cardinal Oil Co.'s No. 15-E Tippett, 330 ft. N and W of center of Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Location.

Corvette Oil Corp.'s No. 8 H. Monroe, 1,040 ft. from E line and 150 ft. from N line of Sec. 39, G.C.&S.F. Sur., Blk. 194 ..... Location.

Massey's No. 1 Iowa Realty Trust, 150 ft. from NE and 1,483 ft. from NW, Sec. 21, Blk. 10, H.&G.N. Sur. .... Spudded and shut down.

Messinger et al's No. 1 Jones, 1,200 ft. from NW, 1,200 ft. from SW, Sec. 5, Blk. 9, H.&G.N. Sur. ..... S.D. 430 ft.

Winfield et al's No. 1 Eaton, 1,170 ft. from NE and 2,490 ft. from SE, Sec. 35, Blk. 3, H.&T.C. Sur. ..... Drlg. 125 ft.

PRESIDIO COUNTY

Sadler et al's No. 1 Bledsoe, 2,640 ft. from N and W Sec. 15, Blk. 354, G.C.&S.F. Sur. ..... S.D. 228 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 7-C University, 1,570 ft. from W and 725 ft. from S, Sec. 25, Blk. 9 ..... T.D. 8,825 ft.; producing.

Big Lake Oil Co.'s No. 1-C University ..... Drlg. 9,479 ft.

Big Lake Oil Co.'s No. 8-C University, 710 ft. from S and 2,410 ft. from E, Sec. 12, Blk. 3 ..... Drlg. 4,825 ft.

Big Lake Oil Co.'s No. 9-C University, 2,410 ft. from N and 765 ft. from E, Sec. 12, Blk. 3 ..... T.D. 3,015 ft.; fishing.

Big Lake Oil Co.'s No. 181 University, 1,700 ft. from S and 2,000 ft. from W, Sec. 10, Blk. 3 ..... T.D. 2,675 ft.; fishing.

Continental Oil Co.'s No. 6-B University, 765 ft. from N and 1,980 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 3,903 ft.

Continental Oil Co.'s No. 7-B University, 1,980 ft. from N and 660 ft. from W, Sec. 36, Blk. 9 ..... Location.

Continental Oil Co.'s No. 8-B University, 1,200 ft. from

S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... Location.
Group Oil Corp.'s No. 5-B University, 2,700 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... T.D. 6,495 ft.; flowed 860 bbls. in 24 hrs.
J. P. Williams et al's No. 1 Scott, 1,650 ft. from N and 330 ft. from W, Sec. 179, Blk. 1, T.&P. Sur. ..... Material on ground.

REEVES COUNTY

Cordova Union Oil Co. et al's No. 1 Wright, 1,320 ft. from S and W, Sec. 53, Cassell's Sur. ..... Fishing 860 ft.
McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur.... S.D. 2,025 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 2,417-20 ft.; S.D. 3,600 ft.
John Castor's No. 1 Hall, 330 ft. from S and W, Sec. 149, E.T.R.R. Sur. ..... Location.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... T.D. 5,410 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Fish 5,550 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,052 ft.

SCURRY COUNTY

G. E. Dickman et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,100 ft.
W. S. Guthrie's No. 1 Clarkson, 1,320 ft. from S and W, Sec. 243, Blk. 97, H.&T.C. Sur. ..... Spudded and S.D.
Heinzleman et al's No. 1 Hood, 436 ft. from N and 489 ft. from E, Sec. 87, Blk. 3, H.&T.C. Sur. ..... Drlg. 660 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... S.D. 4,992 ft.

TAYLOR COUNTY

Urban's No. 1 Blair, 1,500 ft. from S and 150 ft. from W of NE 198 varas Guadalupe County School Lands, Lot 21 ..... Fishing 965 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M-K-T Sur. ..... S.D. 2,269 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... S.D. 3,150 ft.
McPhee-Briggs' No. 1 Kern, 330 ft. from S and W, Sec. 15, Blk. D-8, M-K-T Sur. ..... S.D. 500 ft.
Miller Bros.' No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur.. S.D. 6,120 ft.
Jones et al's No. 1 Tankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W, Sec. 5, G. W. Hurley Sur. ..... S.D. 3,525 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft.; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. .... S.D. 1,994 ft.
Pratt & Hancock's No. 3 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

UPTON COUNTY

Clark-Cooper's No. 1 Lane, 2,310 ft. from N and 990 ft. from E, Sec. 36, Blk. 1, M-K-T Sur. ..... S.D. 2,270 ft.; 1,800 ft. oil in hole.
White's No. 1 Lane, 2,310 ft. from S and 990 ft. from E Sec. 36, Blk. 1, M-K-T Sur. ..... S.D. 2,355 ft.; plugged back to 2,330 ft.; I.P. 10 bbls. oil and water in 24 hrs.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoas, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, I.&G.N. Sur. ..... S.D. 400 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 4 Smith, 990 ft. from SE and 285 ft. from NE of C of Sec. 4, Blk. 34, H.&T.C. Sur. ..... Drlg. 3,325 ft.
Abell Bros.' No. 1 Hayzlett, 1,650 ft. from NW and 1,320 ft. from SW, Sec. 3, Blk. 5, H.&T.C. Sur. ..... S.D. 1,485 ft.
Atlantic Oil Prod. Co.'s No. 1 University, 330 ft. S and E, Sec. 3, Blk. 16 ..... Derrick.
Atlantic Oil Prod. Co.'s No. 2 Barrow, 1,650 ft. from NE and 330 ft. from NW, Sec. 23, Blk. 5, H.&T.C. Sur.... T.D. 2,566 ft:. swabbed 16 bbls. day.
Atlantic Oil Prod. Co.'s No. 1 Blank-Camp, 1,320 ft. from NW and SW Sec. 14, Blk. 34, H.&T.C. Sur. ..... S.D. 2,214 ft.
Atlantic Oil Prod. Co.'s No. 1 Jones, 330 ft. from SW and 1,650 ft. from SE, Sec. 25, Blk. B-29, P.S.L. Sur... Drlg. 906 ft.
Bentley et al's No. 1 Carson, 1,650 ft. from NE and SE Sec. 26, Blk. 5, H.&T.C. Sur. ..... Drlg. 928 ft.
Bradford's No. 1 Carson, 1,650 ft. from SE and 990 ft. from NE Sec. 26 ..... Drlg. 922 ft.
Bundy et al's No. 1 Bennett, 2,310 ft. from NW and SW Sec. 16, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,265 ft.
Eastland Oil Co. et al's No. 1 Grimes, 445 ft. from NE and 1,320 ft. from SE Sec. 14, Blk. 34, H.&T.C. Sur.... Drlg. 1,535 ft.
Eastland Oil Co.'s No. 2 Grimes, 495 ft. from NE and 440 ft. from SE, Sec. 14, Blk. 34, H.&T.C. Sur. ..... Location.
Eastland Oil Co.'s No. 3 Weiss, 954 ft. from NW and 284 ft. from NE of Sec. 4, Blk. 34 ..... T.D. 2,155 ft.; to run csg.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 14, H.&T.C. Sur. ..... T.D. 2,740 ft.
Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. ..... Cellar.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 2,223 ft.
Gulf Prod. Co.'s No. 14 Hutchings, 330 ft. from N and W of Sec. 9, Blk. O ..... Cmtd. 6⅝-in. 2,400 ft.
Gulf Prod. Co.'s No. 23 O'Brien, 330 ft. from N and 990 ft. from E Sec. 18, Blk. F ..... Drlg. 2,570 ft.
Gulf Prod. Co.'s No. 34 O'Brien, 330 ft. from N and 990 ft. from W, Sec. 19, Blk. F ..... T.D. 2,481 ft.; cmtd. 6⅝-in. csg.
Gulf Prod. Co.'s No. 25 O'Brien, 330 ft. from N and W Sec. 20, Blk. F ..... Drlg. 1,645 ft.
Kregle et al's No. 1 Kwasler, 3,062 ft. from SE, 330 ft. from NE, Sec. 46, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,072 ft.
Leidecker et al's No. 2 Bennett, 2,310 ft. from NW and 1,650 ft. from NE, Sec. 16, Blk. 34 ..... S.D. 2,552 ft.; flowing 130 bbls. per day.
Magnolia Pet. Co.'s No. 1 Brillhart, 2,310 ft. from NW and SW, Sec. 13, Blk. 34, H.&T.C. Sur. ..... Location.
Maxwell's No. 1 Smith, 330 ft. from NW and SW, Sec. 26, Blk. 34, H.&T.C. Sur. ..... Rigging up.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,532 ft. from SW, Sec. 1, J. Howe Sur. ..... S.D. 2,720 ft.
O'Quinn et al's No. 1 Reynolds, 2,976 ft. from NW and 990 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... Drlg. 3,290 ft.
Penn Oil Co.'s No. 1 Hardage-Wilson, 330 ft. from NE and SE Sec. 11, Blk. 34, H.&T.C. Sur. ..... S.D. 1,087 ft.
Rector Oil Co.'s No. 1 Monroe, 660 ft. from NE and SE, Sec. 42, Blk. 33, H.&T.C. Sur. ..... Drlg. 2,963 ft.
Rixford-Fuglarr's No. 1 London, 660 ft. NW, 330 ft. NE E cor. Sec. 10, Blk. 32, H.&T.C. Sur., but in Sec. 9 ..... S.D. 2,291 ft.; running tubing.
Skelly Oil Co.'s No. 1 Brillhart, 2,310 ft. from NW and NE, Sec. 13, Blk. 34, H.&T.C. Sur. ..... Location.
Stanolind Oil & Gas Co.'s No. 1 Whitlock, 495 ft. NE, 2,200 ft. SE, Sec. 14, Blk. 34, H.&T.C. Sur. ..... Material.
Sturm et al's No. 4 Jones, 2,310 ft. from SW and 990 ft. from SE Sec. 25, Blk. B-29, P.S.L. Sur. ..... Drlg. 2,525 ft.
Thompson's No. 1 Johnson, 2,310 ft. from SW and 330 ft. from NW, Sec. 9, Blk. 34, H.&T.C. Sur. ..... Fishing 2,351 ft.; flowing 80 bbls. per day.
Weekly Oil Corp. and L. E. Hults' No. 1 Burks, 330 ft. from SE and 1,320 ft. from SW, Sec. 26, Blk. B-29, P.S.L. Sur. ..... T.D. 2,618 ft.; plugged back to 2,460 ft.
Zoch et al's No. 1 Brillhart, 2,310 ft. from SE and SW, Sec. 13, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,698 ft.

WINKLER COUNTY

Richardson et al's Scarborough, 990 ft. from N and W Sec. 1, Blk. 77 ..... Drlg. 2,432 ft.
Richardson et al's No. 1 Scarborough, 990 ft. from N and 1,650 ft. from W, Sec. 1, Blk. 77 ..... Drlg. 2,750 ft.
Sid Richardson et al's No. 2 Sealy estate, 1,650 ft. from S and 330 ft. from W, Sec. 94, Blk. A, G.M.M.B.&A. Sur. ..... T.D. 3,105 ft.; T.P. 3,105 ft.; flows 35 bbls. per hour.
Richardson et al's No. 2 Scarborough, 1,980 ft. from N and 660 ft. from E, Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. by tools 2,630 ft.

Wildcat Operations in Texas Panhandle

Week Ending December 5

CARSON COUNTY

Company, well, farm name, section and block— Remarks:

Gulf Prod. Co.'s No. 6 Cooper, 330 ft. from N and W SW, Sec. 4, Blk. 9, I.&G.N. Sur. ..... Drlg. 3,085 ft.; T.P. 3,025 ft.; swabbed 220 bbls. 1st 8 hrs.
H. A. M. Oil Co.'s No. 3 Cooper, 990 ft. from S, 330 ft. from W of E half NE, Sec. 5, Blk. 9, I.&G.N. Sur.... T.D. 3,115 ft.; T.P. 3,060 ft.; to shoot.
Panhandle Rfg. Co.'s No. 1 Kirby, 1,320 ft. N and W, Sec. 183, Blk. 3, I.&G.N. Sur. ..... Moving in rig.
Sinclair Prairie Oil Co.'s No. 1 Cooper, 330 ft. from S and W, Sec. 4, Blk. 9, I.&G.N. Sur. ..... Drlg. 3,110 ft.; T.P. 3,050 ft.
Skelly Oil Co.'s No. 20 W. Schaffer, 1,320 ft. from S and E, Sec. 87, Blk. 4, I.&G.N. Sur. ..... T.P. 2,985 ft.; T.D. 3,113 ft.; swabbed 36 bbls. per hr.
Skelly Oil Co.'s No. 21 West Schaeffer, 1,320 ft. N and E, Sec. 68, Blk. 4, I.&G.N. Sur. ..... Drlg. 2,692 ft.
Skelly Oil Co.'s No. 14 W. Schaffer, 330 ft. S and W, Sec. 191, Blk. 3, I.&G.N. Sur. ..... Standardizing 2,559 ft.
Texoma Nat. Gas Co.'s No. 1-G Urbanczyk, 1,323 ft. S, 2,653 ft. E S half, Sec. 19, Blk. 4, I.&G.N. Sur. ..... Drlg. 2,415 ft.
Texoma Nat. Gas Co.'s No. 1-T Mineral Investing Corp., 1,323 ft. S, 1,326 ft. W, Sec. 60, Blk. 4, I.&G.N. Sur... Moving in rig.
The Texas Co.'s No. 1 Byrum, 330 ft. from N and W, S half NW, Sec. 188, Blk. 3, I.&G.N. Sur. ..... T.D. 3,252 ft.; cleaning out.
Union Pet. Co.'s No. 3 Cooper, 330 ft. N, 310 ft. E SE, Sec. 5, Blk. 9, I.&G.N. Sur. ..... Cellar.

CHILDRESS COUNTY

Robertson's No. 1 Biddy, center S 26½ acres of N, Laughlin Sur. Blk. T ..... Rig.

COLLINGSWORTH COUNTY

Cochran Bros.' No. 1 Atkinson, 660 ft. from N and E, Sec. 26, Blk. 21, H.&G.N. Sur. ..... S.D. 300 ft.
Kates et al's No. 1 Hickman, center NE, Sec. 43, Blk. 10, H.&G.N. Sur. ..... S.D. 1,750 ft.
Kates et al's No. 1 Bell, 200 ft. from N, 2,310 ft. from W, Sec. 21, Blk. 102, H.&G.N. Sur. ..... S.D. 2,552 ft.

COTTLE COUNTY

Darby Pet. Co. et al's No. 1 Puesail, 330 ft. from N, 1,320 ft. from E, Sec. 40, Blk. B, John H. Stevens Sur. ..... Drlg. 4,147 ft.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e ..... S.D. 1,240 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S, 330 ft. from W, Sec. 146, Blk. 25, H.&G.N. Sur. ..... S.D. 2,428 ft.
Baldridge et al's No. 1 Melton, 330 ft. from NE E half NE, Sec. 95, Blk. B-3, H.&G.N. Sur. ..... S.D. 3,075 ft.; T.P. 3,013 ft.; 40 bbls. daily.
Baldridge et al's No. 1 Catlin, 330 ft. S and E of E 80 of 158-ac. tract, Sec. 57, Blk. 3, I.&G.N. Sur. ..... S.D. 485 ft.
Baldridge O. Co.'s No. 1-B Melton, 330 ft. from N and E of SW, Sec. 95, Blk. B-2, H.&G.N. Sur. ..... Bldg. rig.
Bell O. & G. Co.'s No. 2 Tedesco Webb, 330 ft. S and W, Sec. 61, Blk. 25, H.&G.N. Sur. ..... Drlg. 380 ft.
Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. ..... S.D. 2,554 ft.; shot. 50 qts.; no results.
Christy's No. 1 Gethings, 330 ft. from N and E, Sec. 13, Blk. A-9, H.&G.N. Sur. ..... Drlg. 1,425 ft.
Sam Danner's No. 1 Cobb, 330 ft. S and W NE, Sec. 165, Blk. 3, I.&G.N. Sur. ..... Spudded.
Dixon Creek Oil Co.'s No. 1 Chapman, 330 ft. from S and W, Sec. 69, Blk. 25, H.&G.N. Sur. ..... T.D. 2,800 ft.; to plug back.
Dolomite Prod. Co.'s No. 1 Sailor, 330 ft. N and E, Sec. 111, Blk. 3, I.&G.N. Sur. ..... Rigging up standard tools.
Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. ..... Rig.
Gray County Prod. Co.'s No. 1 Huselby, 330 ft. from S and W, E½ NW, Sec. 55, Blk. 25, H.&G.N. Sur. ..... Rigging up standard tools.
Gulf Oil Corp.'s No. 2 Catlin, 330 ft. S and W NW cor. SW, Sec. 40, but in Sec. 57, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,140 ft.
R. H. Locke's No. 1 McKnight, 1,320 ft. N and W, Sec. 178, Blk. B-2, H.&G.N. Sur. ..... Rig on ground.
Magnolia Pet. Co.'s No. 7 fee, 660 ft. N and W SW, Sec. 14, Blk. 3, I.&G.N. Sur. ..... Bad hole 2,735 ft.; 1,000,000 ft. gas 2,725 ft.
Mazda-Shell Pet. Corp.'s No. 3 Combs-Worley, 330 ft. from N and W NE, Sec. 36, Blk. 3, I.&G.N. Sur. ..... T.D. 2,806 ft.; ran 6-in. csg.
Mid-Kansas O. & G. Co.'s No. 2 Webb, 990 ft. from N, 330 ft. from W NE, Sec. 61, Blk. 25, H.&G.N. Sur.... T.D. 2,600 ft.; T.P. 2,552 ft.; cleaning out.
Mid-Kansas O. & G. Co.'s No. 1 Gethings, 330 ft. S, 1,650 ft. W S½ S½, Sec. 13, Blk. A-19, H.&G.N. Sur.. Spudded.
Ochiltree et al's No. 1 Hughey, 360 ft. S, 330 ft. E E half SE, Sec. 129, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,100 ft.
Parton & Holt's No. 2 Morse, 330 ft. from W, 250 ft. from N, W½ SW, Sec. 5, Blk. 26, H.&G.N. Sur. ..... S.D. 2,635 ft.
Parton Holt's No. 3 Morse, 660 ft. from N and E of E half SW, Sec. 5, Blk. 26, H.&G.N. Sur. ..... S.D. 2,582 ft.; flowed 8 bbls. per day.
Pulse-Shell's No. 1 Brown, 290 ft. from N, 250 ft. from E of NW, Sec. 128, Blk. 3, I.&G.N. Sur. ..... T.D. 3,263 ft.; T.P. 3,215 ft.; shot 90 qts. 3,212-35 ft.
Quicksand Oil Co.'s No. 2 Chapman, 165 ft. N, 775 ft. from E of W 60 ac. of N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ..... S.D. 525 ft.
Saunders et al's No. 2 Sullivan, 822 ft. from W, 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Will plug back to 3,275 ft. and shoot.
Skelly Oil Co.'s No. 3 South Jackson, 330 ft. from N, 990 ft. from E, Sec. 88, Blk. B-2 ..... T.D. 2,970 ft.; cementing back to 1,970 ft.
Skelly Oil Co.'s No. 8 Saunders, 990 ft. S, 1,300 ft. from W, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 2,880 ft.
Tedesco-Bell O. & G. Co.'s No. 2 Morse, 330 ft. from N and W N half SE, Sec. 1, Blk. 26, H.&G.N. Sur. ..... T.D. 2,590 ft.; T.P. 2,495 ft.; putting on pump.

Texoma Nat. Gas Co.'s No. 1-E Yowell, 1,321 ft. N, 1,317 ft. E, Sec. B-2, Blk. 213, H.&G.N. Sur. ..... Drlg. 1,225 ft.
The Texas Co.'s No. 6 Davis, 1,610 ft. from 1,320 ft. from E, Sec. 8, Blk. 1, A.C.H.&B. Sur. ..... Standardizing 2,661 ft.
The Texas Co.'s No. 2 Barrett, 1,022 ft. N, 300 ft. E NW, Sec. 130, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,905 ft.
The Texas Co.'s No. 2 Frashier, 997 ft. N, 1,323 ft. from E, Sec. 162, Blk. 3, I.&G.N. Sur. ..... T.D. 3,305 ft.; T.P. 3,240-67 ft.; swabbed 6 bbls. per hr.
The Texas Co.'s No. 1 Pope, 330 ft. from N and E of W half SE, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,280 ft.; show oil 3,160 ft.; 5 bbls. per day.
The Texas Co.'s No. 14 Williams, 330 ft. N, 370 ft. W, Sec. 7, Blk. 1, A.C.H.&B. ..... Standardizing 2,550 ft.
The Texas Co.'s No. 15 Williams, 330 ft. N and E, Sec. 6, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 1,826 ft.
Sam Travis' No. 1 Back, 330 ft. S and E E half NE, Sec. 44, Blk. 25, H.&G.N. Sur. ..... Material on ground.
Tripplehorn Bros.' No. 1 Lovett, 330 ft. from N and W, Sec. 57, Blk. B-2, H.&G.N. Sur. ..... T.D. 3,157 ft.; swabbed 75 bbls. in 12 hrs.
Weitzel Oil Co.'s No. 2 Morse, 330 ft. from S and E of N half NW, Sec. 67, Blk. 25, A.&G.N. Sur. ..... T.D. 2,675 ft.; plugged back to 2,285 ft.; to set csg.

HEMPHILL COUNTY

Hoover's No. 1 Hoover, 350 ft. from N, 1,200 ft. from E, G. S. Hood Sur. ..... Fishing 5,203 ft.

HUTCHINSON COUNTY

Alexander's No. 1 Cockrell, 330 ft. N and E of E 80 of S 160, Sec. 3, Blk. M-2, T.C. Sur. ..... Rigging up standard tools.
Baso's No. 1 Moore, 330 ft. from S, 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. ..... T.D. 3,080 ft.; est. 5 or 10 bbls. may plug.
Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. ..... S.D. 450 ft.
Huber Pet. Co.'s No. 1 Moyer-Johnson, 990 ft. N and S, 330 ft. from E half SW, Sec. 34, Blk. Y, A.&B. Sur. ..... S.D. 2,918 ft.
Huber Pet. Co.'s No. 1 Works, 1,342 ft. from S and 1,313 ft. from E, Sec. 7, Blk. Y-2, T.T. Sur. ..... Rigging up standard tools.
Liner Drlg. Co.'s No. 1-D Johnson, 330 ft. from N and E, Sec. 6, Blk. 1, B.&B. Sur. ..... Plugged back to 3,146 ft.; S.D.
Joe Murphy's No. 1 Watkins, 440 ft. from N and W of N half, Sec. 13, Blk. M-21 ..... T.D. 2,300 ft.; moved in machine.
Pharis Oil Co.'s No. 5 Smith, 660 ft. from N and W, SW, Sec. 14, Blk. Y, M.&C. Sur. ..... Shut down.
Stanolind O. & G. Co.'s No. 4-A Ware, 330 ft. S and W NE, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Location.
Stansylvania Oil Co.'s No. 3 Stansbury, 236 ft. from S, 1,264 ft. from W, Sec. 129, Blk. Z, E.L.&R.R. Sur. ..... T.P. 2,975 ft.; T.D. 3,075 ft.; pumped 172 bbls. in 44 hrs.
Steckol Prod. Co.'s No. 2-D Whittenburg, 1,065 ft. from S and W, Sec. 28, Blk. M-23, T.C. Sur. ..... Drlg. 2,352 ft.
Texilvania Oil Co.'s No. 1 Haile, 330 ft. S, 280 ft. W, Sec. 16, Blk. 1, E.L.R.R. Sur. ..... Drlg. 425 ft.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

MOORE COUNTY

Canadian River Gas Co.'s No. 2-A Perkins, 3,250 ft. S of most northerly NE cor, 200 ft. W of E line, Sec. 54, Blk. 47, H.&T.C. Sur. ..... Bldg. derrick.
Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. ..... S.D. 1,600 ft.
Shamrock Oil & Gas Co.'s No. 2 Brumley, 330 ft. from N and W, Sec. 360, Blk. 44, H.&T.C. Sur. ..... Fishing 3,035 ft.
Shamrock Oil & Gas Co.'s No. 1 Burnett, 660 ft. from S, 330 ft. from W, Sec. 359, Blk. 44, H.&T.C. Sur. ..... Drlg. 3,120 ft.; estm. 7,000,000 ft. gas at 3,040-60 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... T.D. 4,000 ft.; fishing.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... S.D. 4,800 ft.

WHEELER COUNTY

Delaney et al's No. 1 Sitter, 330 ft. from S and W of E half NE, Sec. 33, Blk. 24 ..... Estm. 70,000,000 ft. gas; T.D. 2,190 ft.
Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E, E½, Sec. 33, Blk. 24, H.&G.N. Sur. ..... T.D. 2,760 ft.; S.D. for pipe line connection.
B. M. Rhodes' No. 1 Noel, 330 ft. S and E NE, Sec. 54, Blk. 24, H.&G.N. Sur. ..... Moving in material.

East Central Texas Wildcats

(Continued from Page 42)

DELTA COUNTY

Commerce Oil Co.'s No. 1 Ablowich, 150 ft. from S line and 776 ft. from W line of H. D. Jewett 52-ac. tract, E. Chick Sur. ..... S.D. 3,813 ft.

ELLIS COUNTY

Armstrong's No. 1 Milton Cook, SE cor. of 50-ac. tract, S. Frederick Sur. ..... S.D. 375 ft. (corrected).
Armstrong Bros.' No. 1 Reeves ..... S.D. 300 ft.
Armstrong Bros.' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur. ..... S.D. 1,435 ft.
George Beasley's No. 1 Francis Borck, 850 ft. from SW line and 350 ft. from S and E lines of tract and grant, 11 League grant ..... Location.
Clark Brooks' No. 1 Anderson, SE cor. of 3,900-ac. tract, 10 miles SW of Waxachachie, E. C. Branch Sur. ..... S.D. 1,050 ft.
Paris Oil Co.'s No. 1 O. S. Bain, 1,500 ft. from S line and 300 ft. from W line of 60-ac. lease, R. M. Williams Sur. ..... S.D. 985 ft.

FRANKLIN COUNTY

Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tr., W. M. Dawson Sur. ..... Fishing for liner; T.D. 3,404 ft.

FREESTONE COUNTY

Clyde Creighton's No. 1 Holley Bros., 854 ft. from W line and center of N and S lines of lease, A.B.M. Sur. ..... S.D. 3,669 ft.

GREGG COUNTY

Blue Star Oil Co.'s No. 7-H Sabine River (Tract No. 7), midway between No. 7-G and No. 7-J ..... Driving piling.
H. Brunson's No. 1 A. Sanders, center of tract No. 105, M. V. Winkle Sur. ..... Drlg. 325 ft.
D. F. Buffington's No. 1 S. L. Dansby, 150 ft. from S line and 1,700 ft. from E line of 30-ac. lease, W. P. Chisum Sur. ..... Running csg.; T.D. 3,734 ft.
J. W. Crockett's No. 1 B. D. Russell, NW offset to Schulman's No. 1 Doris, M. V. Winkle Sur. ..... Running csg.; T.D. 3,470 ft.
Joe Edgar et al's No. 2 Stinchcomb, 79 ft. N and 36.4 ft. W of most northerly SW cor. of Stanolind's Key lease, W. H. Hart Sur. ..... Moving in.
E. & F. Oil Co.'s No. 2 M. Jackson, 330 ft. from S line and center of E and W lines of 16.66-ac. lease, G. F. Penn Sur. ..... Derrick.
Ray Dawson's No. 1 Mitchell, center of 2.1-ac. tract, M. V. Winkle Sur. ..... Testing; T.D. 3,610 ft.
Faith Oil Co.'s No. 2 Barrett, 259 ft. N and 258 ft. E of SE cor. of Stanolind's Flewellen "A" lease, B. W. Witcher Sur. ..... Drlg. 3,650 ft.
Farland Oil Co.'s No. 1, 128 ft. from W line and center of N and S lines of 6-ac. Cemetery tract, J. R. Rigsby Sur. ..... Derrick.
Fontain and Denton's No. 2 Beele, 183 ft. from S line and 187 ft. from E and W lines of lease, G. W. Hooper Sur. ..... Drlg. 2,200 ft.
Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.2-ac. tract, M. Dillard Sur. ..... Derrick.
Rose V. Glasscock's No. 2 Church Lot, 103 ft. from E line of lease and center of old highway, W. H. Castleberry Sur. ..... Rig up.
Guinn Petroleum Co.'s No. 1 J. S. and F. Elder, 200 ft. NE of Solar's No. 1 Elder, and 450 ft. SE of Martin's No. 1 Elder, M. V. Winkle Sur. ..... Derrick.
Gulf Production Co.'s No. 2 J. C. Clayborn, 385 ft. N and 100 ft. W of SE cor. of 20-ac. lease, I. Beaty Sur. ..... Drlg. 2,110 ft.
Humble Oil & Refining Co.'s No. 3 H. Castleberry, 135 ft. from S line and 330 ft. from W line of lease, B. N. Hampton Sur. ..... Waiting on cmt. to set 3,430 ft; T.D. 3,458 ft.
Kinnebrew and Simpson's No. 2 R. B. Walls, center of E and W lines of lease and N offset to The Texas Company's No. 6 Walls ..... Drlg. 2,930 ft.
Edwin Lacy's No. 2 fee, center of 1½-ac. tract, M. V. Winkle Sur. ..... Location.
J. M. Lapin's No. 1 fee, 437 ft. S and 224 ft. E of NE cor. of Humble's Knowles lease in 1.09-ac. tract, M. V. Winkle Sur. ..... Derrick.
Lee Bros.' No. 2 Sam Kay, 100 ft. W of No. 1, Rigsby & Hokit Sur. ..... Rig up.
Lion Oil & Refining Co.'s No. 2 Evans, S offset to Sinclair Prairie's No. 10 Williams, P. McAnnelly Sur. ..... Bldg. derrick.
Madalyn Oil Co.'s No. 1 J. V. Rossen, 550 ft. N and S and 100 ft. E and W of tract, T. Johnson Sur. ..... Drlg. 1,750 ft.
Magnolia Petroleum Co.'s No. 1 Viola Wells, 330 ft. from N line and 187 ft. from W and E lines of 18.7-ac. lease, L. B. Outlaw Sur. ..... T.D. 3,434 ft.
Moore et al's No. 1 Crim, 100 ft. S of Vance & Fagin's No. 1 Crim, M. V. Winkle Sur. ..... Derrick.
V. J. Pearson's No. 1 J. A. Butts, 400 ft. SW and 75 ft. NW of SE cor. of Butts tract, M. V. Winkle Sur. ..... Running csg.; T.D. 3,610 ft.
George Pendegrast's No. 1 R. Lacy, center of 2.25-ac. tract, M. V. Winkle Sur. ..... Testing; T.D. 3,580 ft.
Rajo Oil Co.'s No. 2 Barrett, 378 ft. from N line and 330 ft. from W line of lease, B. W. Witcher Sur. ..... Location.
Rancho Oil Co.'s No. 2 J. M. Wheeler, E offset to Pelphrey Bros.' No. 1 Wheeler, D. Ferguson Sur. ..... Waiting on cmt. to set 3,698 ft.
Red Star Oil Co.'s No. 4 Christian, 225 ft. from N line and 175 ft. from E line of lease, G. W. Hooper Sur. ..... Waiting on cmt. to set 3,577 ft.
Rhoades Drilling Co.'s No. 10 Sabine River (Tract No. 4), 375 ft. from No. 9 and 400 ft. from No. 11, State Sur. ..... Digging pits.
Rhoades Drilling Co.'s No. 5 Sabine River (Tract No. 5), 2,180 ft. N from No. 1 and 1,000 ft. E of Sun's No. 3 Cole ..... Drlg. 2,050 ft.
Rhoades Drilling Co.'s No. 3 Sabine River (Tract No. 7), 2,310 ft. from E line and 2,390 ft. from W line ..... Foundation.
Roeser & Pendleton's No. 2 S. D. Smith, 290 ft. from S line and 330 ft. from E line of lease, W. H. Castleberry Sur. ..... Drlg. 2,970 ft.
South Gulf Prod. Co.'s No. 1 Cemetery, 225 ft. NW of Barnsdall's No. 1 McGrede, on one-half acre lease, D. Sanches Sur. ..... Temp. abnd. 200 ft.
J. B. Sowell's No. 2 W. P. Luce, 378 ft. W of No. 1, E. L. Walker Sur. ..... Derrick.
L. W. Tarkington et al's No. 1 B. Robinson, 150 ft. from N and W lines of 68-ac. lease (old Atlantic & Pacific lease), S. S. Davis Sur. ..... Derrick.
W. C. Turnbow's No. 2 McKinley, 125 ft. N and 420 ft. E of NE cor. of Yount Lee's Harley lease, D. Sanches Sur. ..... Derrick.
Universal Oil & Gas Co.'s No. 2 Adkins, 750 ft. S of No. 1, D. Dainwood Sur. ..... Set surface csg.

HENDERSON COUNTY

B. L. Green et al's No. 1 M. H. Gussett (old well drilled deeper), 150 ft. from N line and 1,000 ft. from W line of 105.5-ac. tract, 3 miles SW of Mabank, L. D. Stover Sur. ..... S.D. 3,328 ft.
Dr. J. T. Kennon et al's No. 1 Rowe & Baker, 1,320 ft. from N line and 150 ft. from W line of survey and tract, Josiah T. Childress Sur. ..... S.D. 920 ft.
H. H. Meyer's No. 1 M. E. Olson, 2 miles S of Brownsboro tract in NW cor. of survey, George Wilson Sur. ..... T.D. 3,719 ft.; steel line measurements.
Superior Oil Co.'s No. 1 Cole and Faulk, 330 ft. from N line and center of E and W lines of survey, 1½ miles NW of Shell's LaRue lease, H. Z. Farmer Sur. ..... Moving in rig.

HILL COUNTY

T. J. Spikes' No. 1 M. H. Davis, 150 ft. from S and E lines of 55-ac. tract, H. R. Alexander Sur. ..... Running liner 1,550 ft.

HOPKINS COUNTY

Burgess and Sinson's No. 1 First Natl. Bank, 470 ft. N and W of SE cor. D. Buie Sur., but located in the H.E.P.&P.R.R. Sur. ..... S.D. 1,390 ft.
E. P. Corley's (formerly E. L. Chapman) No. 1 Jumper, old well being drilled deeper, 175 ft. from N line and 285 ft. from W line of tract, J. Webb Sur. ..... S.D. 775 ft.
Y. E. Hildrith's No. 1 Cole, 1,000 ft. from N line and 330 ft. from W line of tract and survey, 2½ miles NW of Pickton, N. J. Beasley Sur. ..... Drlg. 2,410 ft.
Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract, in the John Polk Sur. ..... S.D. 540 ft.

HUNT COUNTY

A. Kelsey et al's No. 1 W. R. Berry, 450 ft. from S line and 300 ft. from E line of 139-ac. tract, J. Roads Sur. ..... Location.

KAUFMAN COUNTY

P. L. Meader's No. 1 T. C. Coleman, 673 ft. from S line and 460 ft. from W line of 259-ac. tract, W. G. Gibbard Sur. ..... Drlg. 3,272 ft.; Eagleford shale.

LAMAR COUNTY

Doyle and Jondeau's No. 1 Martin, 990 ft. from N line and 330 ft. from E line of tract, Joseph Deck Sur. ..... Rig up; T D. 2,446 ft.

LEON COUNTY

Alladay et al's No. 1 W. R. Thompson, 330 ft. from N line of survey and 330 ft. from E line of 98-ac. tract, N. M. Allen Sur. ..... S.D. 2,170 ft.
Shell-Penn & Black's No. 1 W. M. Phillips ..... Prepare to drill plug; T.D. 6,088 ft.

LIMESTONE COUNTY

Miller Drilling Co. and Joiner's No. 1 J. A. Stephenson, 400 ft. from S line and 300 ft. from E line of lease, one-fourth mile SE of Kosse, Charles Welch Sur. ..... S.D. 3,110 ft.

MORRIS COUNTY

Grover Hart's No. 1 Walcott and Lott, 250 ft. from N line and 330 ft. from E line of survey, 3 miles S of Carson, B. A. Russell Sur. ..... S.D. 1,550 ft.
Joiner & Harris Drilling Co.'s No. 1 Clayton Brown, 1,635 ft. N. of most easterly SW cor. of survey, William M. Coffey Sur. ..... Derrick.

Leonard's (Tucker-Fullwood) No. 1 F. M. Staggers, 450 ft. from N line and 150 ft. from E line of 65-5-ac. tract, J. D. Nelson Sur. ..... S.D. 3,672 ft.

POLK COUNTY

Cannon et al's No. 1 Roberts, 10 miles N of Livingston, Romera Sur. ..... Rig up and shut down.

RED RIVER COUNTY

Concord Oil Co.'s No. 1 J. R. Dallahunty, 500 ft. from N of Isaac Moore Sur. and 100 ft. E of E line of Robert Glass Sur. ..... S.D. 2,734 ft.

L. G. Priest's No. 1 R. W. Peck, 980 ft. N and 500 ft. S of southerly SE cor. of 338-ac. tract, A. Wagley Sur. ..... Derrick material.

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..... Set 10-in. csg. 130 ft.

ROBERTSON COUNTY

Everts Drilling Co.'s No. 1 Cook ..... T.D. 1,420 ft.

RUSK COUNTY

Big Indian Oil Co.'s No. 1 Joe Lee, 113 ft. from S line and 990 ft. from W line of 24-ac. lease, Peter Tippe Sur. ..... Flowed 25 bbls. by heads; prepare to run bottom hole choke on tubing; T.D. 3,646 ft.

Bodine et al's No. 1 G. W. Cooper, 1,760 ft. N and 330 ft. E of SW cor. of Ximenes Sur. ..... Drlg. 3,260 ft.

S. Brackman's No. 2 W. O. Alfred, 330 ft. from N line and center of E and W lines of 11-ac. lease, F. Cordova Sur. ..... Derrick.

A. P. Cary's No. 1 Redwine, 150 ft. from N and W lines of Lot No. 7 on 5-ac. lease, Juan Ximenes Sur. ..... Drlg. 2,300 ft.

T. E. Castle's No. 1 R. H. Gary estate, 3,960 ft. from N line and 5,280 ft. from W line of survey, 10 miles S of Henderson, A. Latham Sur. ..... S.D. 3,813 ft.

Carl Dunham's No. 2-A Scroggins, midway between No. 1 and No. 3 and center of E and W lines of lease, W. A. Elliott Sur. ..... Drlg. 975 ft.

Gulf Production Co.'s No. 2 O. R. Baton, 703 ft. along E line of lease from NE cor. of same and 403 ft. W at right angles, Mary Cogswell Sur. ..... Waiting on cmt. to set 3,585 ft.

Harris and Russell's No. 1 T. W. Harris, 330 ft. from S line and 660 ft. from W line of most southerly SW cor. of 160-ac. tract, 3 miles SW of Henderson, W. G. Davis Sur. ..... Derrick.

Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... S.D. 3,905 ft.

H. B. W. Oil Co.'s No. 1 Redwine, 330 ft. from N and W lines of 63-ac. lease, Juan Ximenes Sur. ..... Drlg. 3,400 ft.

Gulf Production Co.'s No. 1 N. Peterson, 330 ft. from S and W lines of 104-ac. lease, J. C. Barnett Sur. .... Derrick.

Hudson's No. 1 Jeff Phillips, 150 ft. from N line of survey and 640 ft. from W line of 160-ac. tract, 4 miles SE of Minden, Nepomucene Villarea Sur. .... Drlg. 1,420 ft.

Humble Oil & Refining Co.'s No. 1 C. H. Hedge, 330 ft. from S and W lines of 103-ac. lease, J. C. Barnett Sur. ..... Top Austin chalk 3,410 ft.; T.D. 3,531 ft.

Humble Oil & Refining Co.'s No. 1 J. D. Taylor, 330 ft. from W line of lease and S offset to No. 1 Hedge ..... Derrick.

Humble Oil & Refining Co.'s No. 4 E. S. Holt, 1,016 ft. from S line and 435 ft. from E line of lease, F. Cordova Sur. ..... Derrick.

Humble Oil & Refining Co.'s No. 4 D. C. Joiner, 1,100 ft. from S line and 550 ft. from W line of 59.11-ac. lease, F. Cordova Sur. ..... Rig up.

Iotex Oil Co.'s No. 3 Tom Beall, W offset to Ward Oil Co.'s No. 3 Beall, P. W. Holmes Sur. ..... Derrick.

Iowa-Payne Oil Co.'s No. 1 W. A. Frederick, 150 ft. from E line of lease and 330 ft. W of Smith & Sikes' No. 1 Frederick, I. G. Parker Sur. ..... Waiting on cmt. to set; T.D. 3,-866 ft.

J. Jeagen's No. 1 Needham, 330 ft. from N line of lease and 330 ft. from NE and 400 ft. from SE of survey, J. H. Chambers Sur. ..... S.D. 1,414 ft.

Killum and Gibbs' No. 1 Bradford, SW offset to Hunt's No. 2-A Bradford and 150 ft. S of road, Juan Ximenes Sur. ..... Top sand 3,598 ft.; T.D. 3,610 ft.; waiting on standard rig.

Kimble & Acre's No. 1 Frederick, 150 ft. from S line and center of E and W lines of 10-ac. lease, Juan Ximenes Sur. ..... Derrick.

Doctor Kinney's No. 1 G. W. Tipps (formerly Watson and Butler), 330 ft. from S line and 600 ft. from W line of 18-ac. lease ..... Drlg. 2,730 ft.

Marr Drilling Co.'s No. 2 John Rettic, 330 ft. from N and W lines of 180.56-ac. tract, J. H. Sparks Sur. ... Coring 3,692 ft.

McMahon's No. 2 Joe Lee, 355 ft. from center of N and S lines of lease, Peter Tippe Sur. ..... Derrick.

Mebane Oil Co.'s No. 1 Daisy Bradford, center of 6.5-ac. lease, Juan Ximenes Sur. ..... Rig up.

Orr et al's No. 1 J. C. Hale, 590 ft. E and 330 ft. S of NW cor. of 50-ac. tract, M. V. Pena Sur. ..... Rig up.

Overton Refining's No. 2 Maxwell, 70 ft. S of J. E. Oliver's No. 1 G. Pool, F. Cordova Sur. ..... Rig up.

Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... S.D. 1,465 ft.

R. O. Payne's No. 1 Redwine, 200 ft. from N and W lines of Lot No. 3, Juan Ximenes Sur. ..... Set surface csg.

Sandifer et al's No. 1 L. J. Pinkston, S offset to Champlin and Bass' No. 1 Pinkston, J. B. De Cadena Sur. ..... Derrick.

Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... T.D. 3,387 ft.

Smith and Sikes' No. 2 W. H. Frederick, 150 ft. from S and E lines of 10-ac. lease, Juan Ximenes Sur. .... Set surface csg. 105 ft.

Southern Oil & Refining Co.'s No. 2 I.&G.N.R.R., 200 ft. E and 50 ft. S of NE cor. of W. R. Cooke Sur., W. A. Elliott Sur. ..... Rig up.

Stanolind Oil & Gas Co.'s No. 1 J. W. Ashby, 330 ft. from N and W lines of 107.6-ac. tract, Milton Walker Sur. ..... Top copper colored shale 3,781 ft.; swabbing through tubing.

Sun Oil Co.'s No. 4 R. J. Hendon, 330 ft. from W line of lease and 332 ft. S of No. 3, Juan Ximenes Sur ... Location.

Tatum-Oliver-Spradner's No. 3 Brightwell, W offset to their No. 1, R. W. Smith Sur. ..... Waiting on cmt. to set; T.D. 3,-640 ft.

The Texas Company's No. 2 G. G. Turner, 378 ft. from S line and 195 ft. from W line of lease, T. H. Smith Sur. ..... Derrick.

SMITH COUNTY

Boucher-Owen and McCulloch's No. 1 Beulah Means, 2,775 ft. from S line and 330 ft. from E line of lease, E. Daniels Sur. ..... T.D. 3,600 ft.

Cockburn and Hooker's No. 2 Lula Jackson, 330 ft. from S and E lines of 76-ac. lease, E. Daniels Sur.... Rig up and S.D.

W. T. Graham's No. 1 Cooke, 400 ft. N and 36 ft. W of SW cor. of Sinclair Prairie's Dora Wright 162.2-ac. tract, Juan Vargas Sur. ..... Derrick.

Hooper et al's No. 1 Lula Jackson, 330 ft. S and 330 ft. E of most northerly SW cor. of Monroe Shell Robinson lease, E. Daniels Sur. ..... S.D. 3,815 ft.

Johnston and Owens, trustee's No. 2 Wolford, 330 ft. from N line and 104 ft. from W and E lines of lease, J. Jordan Sur. ..... Circulating; T.D. 3,755 ft.

McRabie et al's No. 1 C. P. Hamilton, 330 ft. from S and E lines of 255-ac. tract, Jackson Rector Sur. .. Rig up and S.D.

Mid-Kansas Oil & Gas Co.'s No. 3 J. H. Sharp, 316 ft. from S line and 4,603 ft. from E line of lease, M. D. L. S. Coy Sur. ..... Derrick.

Mundt et al's No. 1 W. E. Murray, 330 ft. from S and E lines of lease, 5 miles SE of Tyler, Marshall Wynn Sur. ..... Coring 4,650 ft.

Sinclair Prairie Oil Co.'s No. 6 Patterson, 330 ft. from N and W lines of lease, J. Vargas Sur. ..... Topped sand 3,748 ft.; swabbed salt water for 7 hrs.; fluid level remained at 1,000 ft. below surface; waiting on cmt. to set; T.D. 3,753 ft.

Smith-Guerin and King's No. 4 S. S. Cooke, 432 ft. from S line of lease and 530 ft. W of Sinclair Prairie's No. 11 Dora Wright, Juan Vargas Sur. .... Rig up.

Sun Oil Co.'s No. 7 J. A. Layne, 330 ft. from S line and 201 ft. from E line of lease, S. Dexter Sur. .... Location.

Sun Oil Co.'s No. 2 Hudnott and Melton, 330 ft. from N and E lines of 137.5-ac. lease, M. D. L. S. Coy Sur. ..... Derrick.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... T.D. 4,212 ft.

UPSHUR COUNTY

P. Buttram's No. 1 D. F. Smith, S offset to E. L. Smith's No. 1 Watts, C. H. Cooper Sur. ..... Drlg. 1,000 ft.

Cal-Tex Corp.'s No. 7 Dearing, 424 ft. S and 239 ft. W of NE cor. of 6-ac. tract, J. M. Pineda Sur. ..... Rig up.

Conservative Oil Co.'s No. 2 Eva O'Byrne, 330 ft. from S and E lines of lease, David Ferguson Sur. ..... Running csg.; T.D. 3,710 ft.

Cranfill & Reynolds' No. 1 H. M. and B. B. Berry, 935 ft. from N line and 2,000 ft. from W line of survey, J. P. Hutchinson Sur. ..... T.D. 3,767 ft.; sandy ash.

Creighton Drilling Co.'s No. 2 Hargraves, 330 ft. from S line of lease and 660 ft. W of No. 1, M. Mann Sur. .. .. Running csg.; T.D. 3,700 ft.

Louis Godlin's No. 3 Mackey, 330 ft. NE of No. 1 and 126 ft. N of highway, S. Harrell Sur. ..... Location.

Pat Hudson et al's No. 1 D. F. Smith, 330 ft. out of SE cor. of W 100 acres of the N 200 acres of the 272-ac. lease, 2 miles E and 1½ miles N of Cranfill & Reynolds' No. 1 Rash, John Denson Sur. ..... Waiting orders 3,710 ft.

Humble Oil & Refining Co.'s No. 8 J. Phillips, 317 ft. from S line of lease and 660 ft. W of No. 2 ..... Drlg. 3,355 ft.

Lynch and McQuiag's No. 1 L. T. Mackey, 330 ft. from S line of road and 330 ft. from E line of road, Sarah Harrell Sur. ..... Drlg. 3,550 ft.

Magnolia Petroleum Co.'s No. 8 O. F. Smith, 330 ft. from N line of lease and 330 ft. NW of No. 5 and 955 ft. from No. 6, H. Edwards Sur. ..... Top Pecan Gap 2,505 ft.; T.D. 2,-695 ft.

G. P. Mitcham's No. 2 Jim Bland, 330 ft. from S and W lines of 15-ac. lease, G. W. Hooper Sur. ..... Waiting on cmt. to set; T.D. 3,-707 ft.

B. F. Phillips' No. 3 E. H. Bramley, 330 ft. from S line of lease and 660 ft. W of No. 2, William King Sur. ..... Waiting on cmt. to set; T.D. 3,-675 ft.

L. B. Pruitt's No. 1 B. F. Phillips, 150 ft. N and 330 ft. W of most southerly SE cor. of 81.6-ac. tract, William Goodwin Sur. ..... Derrick.

L. B. Pruitt's No. 1 B. F. Phillips, 140 ft. from S line and 330 ft. from E line of 75-ac. lease, William Goodwin Sur. ..... Derrick.

J. F. Roberts et al's No. 3 A. L. Jenkins, 317 ft. from N line of lease and S offset to Humble's No. 5 Phillips, H. Edwards Sur. ..... Rig up.

Tucker and Van Fleet's No. 1 S. J. Mangham, 1,320 ft. E and 640 ft. S of SW cor. of M. Ward survey, 3 miles E of Gilmer, J. J. Hooper Sur. ..... T.D. 3,400 ft.

Twin Oil Co.'s No. 2 C. J. Mackey, 330 ft. from S line of lease and 660 ft. W of No. 1, J. M. Pineda Sur. ..... S.D. 300 ft.

R. H. Vice et al's No. 2 L. Graves, 330 ft. from W line of lease and 660 ft. N of No. 1, M. Irwin Sur. .. Rig up.

Wadley and Evans' No. 1 W. S. Jones, 330 ft. from S and E lines of 160-ac. lease, James M. Dunn Sur. ... Temp. abnd. 3,690 ft.; moving derrick to north.

Waggoner et al's No. 2 Williams, center of 5-ac. lease, McKinley and Williams Sur. ..... Derrick.

Watson's (formerly Kinsey) No. 1 D. F. Smith, 466 ft. from S line and 1,165 ft. from E line of 266-ac. tract, J. R. Davis Sur. ..... S.D. 1,856 ft.

J. Z. Werby et al's No. 2 Ben H. Reed, 330 ft. from S and E lines of lease, T. Hopkins Sur. ..... Set surface csg.

Williams and McConnell's No. 1 Williams, center of 6⅝-ac. lease, McKinley & Williams Sur. ..... Waiting on cmt. to set T.D. 3,-629 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tract, 3¼ miles S of Canton, M. J. De Cadena Sur. ..... S.D. 3,300 ft.

Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... S.D. 2,300 ft.

Killum & Chisum's No. 1 N. E. Clark, 165 ft. out of most westerly NW cor. of tract, 2 miles S of Van, Jackson Thomas Sur. ..... S.D. 3,036 ft.

Lyman et al's No. 1 J. C. Stewart, 150 ft. from N line and 650 ft. from W line of 90-ac. tract, A. McPhail Sur. ..... T.D. 2,731 ft.

Pure Oil Co.'s No. 15 L. Wells, 50 ft. E and 550 ft. N of NE cor. James Rose Sur., Munn Cross Sur. ..... Drlg. 1,950 ft.

Pure Oil Co.'s No. 3 M. Elliott, 200 ft. E of W line and 225 ft. S of N line of lease, A. H. Wiley Sur. .... Cmt. setting 307 ft.

Pure Oil Co.'s No. 2 R. A. Enas, 150 ft. S of N line and 225 ft. E of W line of lease, Jackson Thomas Sur.... Testing 2,953 ft.

Pure Oil Co.'s No. 2 Mrs. J. E. Cumbie, 250 ft. N of S line and 328 ft. W of E line, John Walling Sur. ... Coring 2,823 ft.

A. C. Rowan's No. 1 W. E. Price, 150 ft. from N line and 150 ft. from W line of 28-ac. tract, John Walling Sur. ..... S.D. 2,942 ft.

Roy Stumpff's No. 1 M. L. Riggs, 169 ft. from E line and 250 ft. from S line of tract No. 3 and 330 ft. from E line of lease, 4 miles NE of Van, William Daniel Sur. ..... Rig up and S.D.

The Texas Company's No. 2 W. H. White, 217 ft. W of E line and 350 ft. N of S line of lease, John Walling Sur. ..... Location.

The Texas Company's No. 5 R. V. White, 350 ft. S of N line and 200 ft. E of W line of 15.5-ac. tract in Nacogdoches County School Land Sur. ..... Drlg. 880 ft.

Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... T.D. 2,850 ft.

C. O. Weir's No. 1 W. B. Tunnell, 150 ft. from N and W lines of lease, A. H. Wiley Sur. .. .. T.D. 3,003 ft.

WOOD COUNTY

De Canther's No. 1 N. L. McLain, 350 ft. from N line and 642 ft. from E line of tract, Sam Brooks Sur.... S.D. 3,846 ft.

Hull & Short's No. 1 T. H. Peterson, 600 ft. from S line and 200 ft. from E line of 320-ac. tract and survey, 4 miles E of Mineola, W. B. McNutt Sur. ..... Drlg. 2,240 ft.

F. B. Parriott's No. 1 John G. Harvey, 200 ft. from N line and 2,301 ft. from W line of survey, 6 miles E of Quitman, Meredith H. Ussery Sur. ..... Reaming 4,340 ft.

Sinclair Prairie Oil Co.'s No. 1 M. R. Sayner, 330 ft. from N and W lines of Blk. No. 19, one-half mile N of Elberta, J. M. Chandler Sur. ..... S.D. 4,379 ft.

Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur. ..... S.D. 3,840 ft.

Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tract and 2¼ miles S of Kantes in Sarah McDonald Sur. ..... Coring 4,140-50 ft.; Austin chalk; T.D. 4,160 ft.

Oklahoma City Field 4 Years Old but Potential Production Still Estimated at High Figure

By W. A. SPINNEY
Staff Correspondent, Oklahoma Fields

The Oklahoma City Field was four years old on December 4. It produced to December 1, 1932, approximately 116,500,000 bbls. of oil. The discovery well was the Indian Territory Illuminating Oil Co.'s No. 1 fee, C SE SE Section 24-11-3w. It made 5,400 bbls. of oil the first 24 hours from the Siliceous lime at 6,402 feet. It has been plugged back to the Layton sand after having produced 1,019,000 bbls. of oil and is now making around 85,000,000 feet of gas a day. It was the only well drilled on the 40-acre lease.

There are now about 900 producing wells in the field with an estimated potential of 4,420,000 bbls. of oil a day. The dry holes in the field number 14, and about 40 of the oil wells have been plugged back to the gas horizon.

The Oklahoma City Field is believed to be defined on the east, northeast and south by dry holes. The northwest part of the field is curtailed by city drilling restrictions, but the west and southwest areas offer future development. The field is now about 6 miles north and south and extends into the northern edge of Cleveland County.

The field is prorated to 73,510 bbls. of oil a day, which is less than 1 per cent of its estimated potential production. A survey shows that 81 companies owns 945 wells, of which 114 were completed in the Siliceous lime, 449 in the Simpson sand formation and 427 in the Wilcox sand. There are 45 tests which have not been completed.

In the Holdenville Field

Activity continues in the Holdenville area of Hughes County. Pringle & Marshall's No. 1 Church Lot, SE cor. SW SW SW, Section 10-7-8, is estimated at 3,000 bbls. a day from Booch sand at 2,884-2,917 feet. The gas is estimated at 20,000,000 feet a day. It has been shut in to erect tankage. Many believe this is the largest well yet completed in the Booch sand in the West Holdenville area.

Phillips Petroleum Co.'s No. 1 Jacobs, NE cor., Section 16-7-8, cored Booch sand at 2,879-95 feet, where a showing of oil was found, and was coring deeper.

E. A. Felmlee and others' No. 1 Chupco, NW cor. SW NW, Section 15-7-8, found the Booch sand at 2,886-2,902 feet. The well made a flow of 10 bbls. It was cleaned out and later tested 100 bbls. of oil. While cleaning out a fishing job developed.

Winona Oil Co. and others' No. 1 Harjo, SE cor. NW NW, Section 29-7-8, southwest of production in the West Holdenville Pool, and a quarter of a mile from production in the Fish Pool, bailed down after cementing at 3,011 feet, and found nothing. It was cored to 3,095 feet, and after bailing found nothing. It was being drilled deeper.

In the south extension to the St. Louis Pool, in Pottawatomie County, the Phillaine Oil Co.'s No. 1 Garrett, SE cor. NW, Section 28-7-4, swabbed 1,085 bbls. of oil, compared to 1,125 bbls. the previous day, from the Simpson sand at a total depth of 4,175 feet.

New locations announced in the same area include Brauer Tool & Supply Co.'s No. 1 Brandenburg, SE cor. SW SW, Section 3-7-4, and W. J. Wellman and others' No. 1 Brandenburg, NW cor. NE SE, Section 3-7-4.

In Southern Oklahoma

F. Lundy and others' No. 1 Majors, NE cor. SE SE, Section 25-1s-3w, an extension well in the Tatums area of Carter County, was given a potential rating of 550 bbls. a day after flowing and swabbing 150 bbls. in two hours. The well was unable to take a 24-hour gauge owing to lack of storage on the lease. The oil was found in a series of sands at 2,419-2,501 feet.

Other developments in the Tatums Field include the K. D. Oil Co.'s No. 2 Burton, NW cor. SW SW, Section 30-1s-2w, which was rigging. W. Gant and others' No. 2 Burton, NW cor. SW, Section 31-1s-2w, has casing cemented on top of a showing of oil in sands at 2,345-2,468 feet. Samedan Oil Co.'s No. 1 Gouin, NE cor. SW, Section 31-1s-2w, has casing cemented on top of sand showing oil at 2,170-2,238 feet. Carter Oil Co.'s No. 1 Hooks, NE cor. SW NW, Section 19-1s-2w, is a new location rigging. G. L. Pace's No. 1 Lucas, NE cor. SE NW, Section 14-1s-3w, is a semiwildcat test preparing to spud.

In Stephens County, four new tests were preparing to start operations. C. M. Becker and others' No. 1 Bunch, NE cor. NW SW, Section 21-2s-7w, was about ready to spud. E. Pace and others' No. 1 Toney, NW cor. SE NW, Section 27-2s-7w, was rigging. G. L. Pace's No. 3 Houston, NE cor. SE SW, Section 2-2s-8w, is a location. C. Wilie and others' No. 1 Cates, SE cor. NW SW, Section 15-1s-8w, which has been shut down for water since August, was preparing to spud.

H. J. Brown's No. 1 Donham, NW cor. SE NE, Section 11-2s-8w, south and west of Duncan, is showing oil from sand at 2,133-36 feet, and is preparing to make a pumping test. It is estimated at 100 bbls. daily. The English Drilling Co.'s No. 1 Heenan-Coe, NE cor. SE NE, Section 32-3-7w, a wildcat test in Grady County, may be abandoned. It failed to make a producer after finding a showing of oil in sand at 3,255-84 feet and was later drilled deeper to a total depth of 3,504 feet. The contract depth was 3,500 feet. It may be drilled if other leaseholders in the district can be interested in helping to drill a deep test. The well made 60 bbls. of oil from the sand at 3,255-84 feet when first tested but soon declined to approximately 10 bbls. of oil and 100 bbls. of salt water.

Several important wildcat tests in the State are drilling in search of oil. The community wildcat of the Carter Oil Co. and others' No. 1 Shawbell, C SW NE Section 1-12-4w, Oklahoma County, at the northwest edge of Oklahoma City, was drilling at 6,675 feet. A slight showing of oil was found after coring in sandy lime at 6,506-26 feet.

Stanolind Oil & Gas Co.'s No. 1 Kolb, C NE NW Section 33-20-2w, in the new Wentz Pool in Noble County, was drilling at 3,700 feet. It is located south of the new Wentz community well recently completed in Section 17-20-2w.

In Logan County the Ramsey Petroleum Co. and others' No. 1 Duck Club, NW cor. NE Section 10-16-4w, west of Guthrie, was fishing for drill pipe at 6,053 feet in lime. This test found water in the Layton series where a wildcat well to the north is producing oil.

In Lincoln County the Sovereign Oil Co. and others' No. 1 Flowers, SW cor. SE SE Section 14-12-3, was shut down at 5,610 feet in Wilcox sand. The well has not had any showings of oil worth testing and it may be abandoned.

Chances for a new field in Grady County were dampened by developments at the English Drilling Co.'s No. 1 Heenan-Coe, NE cor. SE NE Section 32-3-7w, Grady County wildcat, which is shut down at 3,504 feet.

Oklahoma City Completions

Indian Territory Illuminating Oil Co.'s No. 1 Jarvis, SW cor. SE NW Section 26-11-3w, in the southwestern part of the Oklahoma City Field, flowed 1,320 bbls. of oil the first hour and 1,020 bbls the second hour and was shut in because of lack of tankage. The casing was set at 6,498 feet, the total depth being 6,626 feet, in Wilcox sand. It is the west offset to the same company's No. 1 Wickline in the same section, which was completed as a comparatively small producer.

The second well completed in the field was the Slick-Urschel's No. 3 Dodd, SE cor. SW SE Section 22-11-3w, for 2,364 bbls. the first three hours and 76,000,000 feet of gas a day. It was producing from the Wilcox sand at 6,496-6,607 feet.

Umpire Ray M. Collins advises that the potential production of the entire Greater Seminole area for December 1 is 332,312 bbls. per day, which is an increase of 15,559 bbls. daily over the November figure. The pools in that area showing an increase in the last 30 days are St. Louis, West Seminole and Carr City.

The umpire also estimates the total one-day potential production of Oklahoma at 5,017,977 bbls. a day. Of this amount the Oklahoma City Field is estimated at 4,420,000 bbls. daily. The following table shows the potential of each major producing area in the State:

Pool—	Estimated potential (bbls.)
Allen	18,264
Asher-Wanette	8,887
Bowlegs	25,273
Carr City	20,132
Earlsboro (proper)	23,967
Earlsboro (East)	17,843
Earlsboro (South)	4,562
Earlsboro (E. Class B)	531
Earlsboro Townsite	2,932
Konawa	8,444
Little River	39,139
Little River (East)	2,997
Maud	2,894
Mission	14,747
Sasakwa	2,472
Searight	5,970
Seminole	23,464
East Seminole	2,111
West Seminole	20,938
St. Louis	36,318
Fish	34,778
West Konawa	2,175
Wewoka	4,231
East Earlsboro (Calvin)	9,672
Chandler	5,601
Orlando	900
West Perry	2,425
Tatums	57,351
Wildcats	7,295
Class "A"	41,015
Strippers	151,078
Oklahoma City	4,420,000
Total	5,017,977

Corporation Commission Hearing

Much of last week was occupied by the Corporation Commission in hearings on petitions, protests, and recommendations. A great mass of testimony was taken and attorneys for oil operators and the commission battled through the week in the interest of their clients. The hearing, which started November 28 was recessed on December 1 until December 6 to give the commission an opportunity to hear other cases.

Investigation of the oil production from the Greater Seminole area will follow the present proration inquiry in the Oklahoma City Field. Producers in the Greater Seminole area have been asked to make reports to the Corporation Commission, by December 15, on all phases of production and shipping which will be investigated.

Operators with production in the Oklahoma City Field charge that there is a wastage of oil and gas in that field. The corporation commissioners halted these charges of waste and irregularities when they announced that only direct evidence would be permitted in the record. This decision was made after several independent operators had made charges from the floor that both oil and gas had been produced and not reported, and that natural gas had been taken from wells without any reports being made or payment reported.

Direct examination, however, failed to support these charges, but some direct testimony will be taken to support general charges of physical and economic waste, in connection with oil production. Most of the first few days of the hearing have been taken up in the presentation of reports of production and sales by the different companies, which became routine, along with some questions for opinions on waste.

E. F. Guidinger of the Phillips Petroleum Co. said there had been a wastage of natural gas in the field and that this had led to a waste of gas energy, used in producing oil, and underground waste. Physical waste in connection with waste of oil is small, he said, the more oil that is produced the greater the percentage of waste would be. In his opinion an increase in the allowable would result in greater physical waste.

H. M. Stalcup, Skelly Oil Co., described the waste of natural gas and gas energy in the field as criminal, saying he believed that waste is still excessive and suggested that steps be taken to remedy the situation. He pointed to the high gas-oil ratio on wells, to the blowing of gas into the air, and the various methods of producing oil wells in the Oklahoma City Field.

D. L. Knowlton, production engineer for the Phillips Petroleum Co., gave evidence on a group of wells with high gas-oil ratio owned by his company and pointed to the waste incident to producing such wells, where the gas could not be utilized. He stated that little gas was being used for fuel and most of the residue was being blown into the air.

Anderson-Prichard Petition

Hearing on the Anderson-Prichard Oil Corp.'s petition to the Corporation Commission for new rules and regulations for the production of crude oil in the State was proceeding slowly. Most of the records submitted by the companies were verified and an official of each company stated that his company has abided by All the rules covering proration in the Oklahoma City Field.

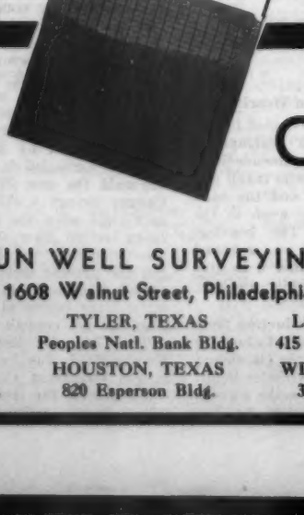
Horace McKeever, attorney for the Champlin Refining Co., alleged that actual waste of gas was enormous in the Oklahoma City Field and that this, in turn, creates economic waste. Under the proration law, he said, wildcat drilling could be curtailed on an economic ground. He said the new Wentz Pool in Noble County brings a threat to the industry at a time when the State's oil market is being lost to other states. Mr. McKeever also said that not only wildcat drilling but the present method of proration has forced a majority of companies to build up a large potential production so that they can get enough oil to operate on.

The Champlin Refining Co., Mr. McKeever cited, was forced to drill 12 wells in the Oklahoma City Field so that it could get oil for its refinery whereas if it had been permitted to produce the oil

WHAT USERS SAY: No. 12

"We wish to state that our field has reported several times that your well surveying device, in their opinion, is very satisfactory and the most used well surveying device in the East Texas oil field"

SYFO



SAFE
SPEEDY
ACCURATE
INEXPENSIVE

Clinograph

SPERRY-SUN WELL SURVEYING COMPANY

1608 Walnut Street, Philadelphia, Pa.

DALLAS, TEXAS
1501 Caruth Street

TULSA, OKLA.
402 Petroleum Bldg.

TYLER, TEXAS
Peoples Natl. Bank Bldg.

HOUSTON, TEXAS
820 Esperson Bldg.

LOS ANGELES, CALIF.
415 Petroleum Securities Bldg.

WICHITA FALLS, TEXAS
339 Harvey Snider Bldg.

as needed half of the potential of one well would have been enough.

Attorneys on both sides expressed a willingness to join in seeking a means of giving the Corporation Commission authority to control drilling in outside areas in the State and of wildcat wells.

Allowables and Shipments

At the hearing on fixing the maximum allowables of the Oklahoma City Field at 73,510 bbls. a day, a clerk in the military department testified that the pipe line shipments for the first 24 days of the month averaged 70,981 bbls. a day and that there are 798 wells in the field eligible to produce during the month of December, of which number there are 121 eligible and 3 ineligible "water" wells (wells producing oil and water).

The commission set December 23 for the next hearing on allowables for the Oklahoma City Field. Conditions in other fields in the State remain unchanged and no adjustments will be made in the proration schedule outside the Oklahoma City Field.

The petition filed in the name of Anderson-Prichard Oil Corp. for revisions in the proration rules of the Corporation Commission was also signed by 30 other producers in the Oklahoma City Field with an aggregate potential production of about 1,000,000 bbls. daily.

The railroads object to the clause in the petition that states that with all shipments of oil an affidavit must be made stating where the oil came from and where it is going. An attorney with the M-K-T railroad announced that the railroads would file an intervention petition before the commission closes the case. Also four Oklahoma City refineries entered objections to the petition on the grounds that the commission had no jurisdiction over them and that to require reports would prejudice them in the eyes of their customers and associates.

A request was made upon the Corporation Commission by several companies through their attorneys for a decision on a petition regarding the extra allowables to certain wells in the Oklahoma City Field. It was pointed out that this petition was presented to the commission in January, 1932, and again in September, after which arguments were heard and briefs filed.

Investigation of company records continued during most of the week and the present proration system was given approval by a number of witnesses. However, most of the witnesses did not approve of a higher allowable production, fearing the price would be depressed by overproduction.

Waste of Natural Gas

During the hearing admission of waste of natural gas in Oklahoma City Field was made by two companies. One of the companies was the Wrightsmith Oil Co., owner of two wells. The company's No. 1 Smith was completed in May, 1930, and in addition to its oil production had an initial gas production of 18,000,000 feet per day, which has declined to 4,000,000 feet per day. The well was given a water allowable in October, 1932, and is being produced 8 to 10 hours a day, through an adjustable choke, which results in a wastage of approximately 2,000,000 feet of gas a day. No. 2 Smith was completed in October, 1930, with an initial gas production of 40,000,000 feet of gas a day along with its oil and the volume at the present time is around 16,000,000 feet a day. It was also given a water allowable in April, 1932, and is being produced daily through a 1½-inch choke and making around 5,000,000 feet of gas.

The gas wastage on the Cromwell-Franklin Oil Co.'s Trosper Park lease was said to have occurred during the early development, but at present the company claims there is no wastage, all of the gas being consumed in its own operations. During the time of the greatest wastage there was a fluctuating demand for gas in the Oklahoma City Field, and it was impossible to produce the wells for oil without some gas wastage.

The commission has advised all companies with production in the Oklahoma City Field that they will be expected to explain the operation of all high gas-oil ratio wells or gas wells.

Injunction Proceedings

Westgate Oil Co. attacked the extra allowables in the Oklahoma City Field and asked for an injunction against the Oklahoma Corporation Commission from enforcing its rules and regulations covering this extra production allowed each well in the field and the extra production allowed wells making 3 or more per cent water, in a suit filed in the state supreme court on December 2.

This is the first attack on these extra allowables outside of the petitions presented to the Corporation Commission at a series of hearings starting last January and terminating last month. These petitions were presented by Phillips Petroleum Co., Wilcox Oil & Gas Co. and Westgate Oil Co. and others.

Under the present proration order in the Oklahoma City Field for December, the commission allocated a total of 875 bbls. of oil daily to all the Siliceous lime wells in the field, and an extra 25 bbls. daily to all wells in the field outside of the lime zone. All wells outside of the lime zone that are making 3 per cent or more water, are given an additional 100 bbls. of oil a day.

The Westgate Oil Co.'s suit attacks such practice claiming it is discriminatory and unjust. This suit holds that the November order and the December journal entry are void, as they are in conflict with the proration statute; that issuance of orders is beyond the jurisdiction of the commission, and that such orders amount to taking private property for private use, contrary to the state and Federal constitution, rendering such orders void.

Atoka County

Hicks and others' No. 2 Morris, SE cor. NE NW SE Section 5-1-15, was completed for 3 bbls. from 165-85 feet; total depth, 215 feet.

Comanche County

Chamberlain and others' No. 1 Munson, SE cor. NE NW Section 30-2-9w, is a location.

Creek County

Creokla Oil Co.'s No. 1 Wa-Ta-She, CSL SW NE Section 4-17-10, was drilling at 600 feet. Smith and others' No. 4 Fry, CSL NW SE Section 14-17-8, an old well drilled deeper, total depth 2,275 feet, rigging. Merritt and others' No. 5 Richards, SE cor. NE Section 26-18-8, is a rig. L. B. Jackson's No. 2 Hill, SW cor. NE Section 26-18-8, is a rig. J. E. Crosbie and others' No. 2 Escoe, NW cor. NE SW Section 26-18-8, is a location. Gled Oil Co.'s No. 2 Holmes, SW cor. NE Section 25-19-8, an old well drilled deeper, was completed for 250,000 feet of gas a day from 2,375-82 feet. Billingslea and others' No. 5 Warnaskee SW cor. SE SW SW Section 15-15-8, is a rig. Jillson and others' No. 1 Starr, SE cor. NW Section 18-15-8, was completed for 307 bbls. of oil a day from 3,840-64 feet.

Grady County

Lone Star Gas Co.'s No. 1 Brown, C SE NW Section 36-4-8w, was drilling at 700 feet.

Garvin County

Merrick and others' No. 1 Derdeyn, NE cor. NW Section 20-1-3w, was dry and abandoned at 2,340 feet.

Lincoln County

Pure Oil Co.'s No. 3 Unglesbee, Section 1-15-6, is a location. Henry and others' No. 1 Strip, NW cor. Section 1-15-6, was completed for 260 bbls. from 3,680-3,715 feet.

Hughes County

Liggett and others' No. 1 Polk, C S half NW NE Section 10-9-9, is a location. English and others' No. 1 Harjo, NE cor. SW Section 3-8-8, is a rig. Buchner and others' No. 1 Scott, SW cor. NE NE Section 4-7-8, is a location. Mid-Continent Petroleum Corp.'s No. 3 Tiger, SE cor. NE Section 9-7-8, was completed for 455 bbls. from 2,893-2,915 feet. Rudiman and others' No. 1 Long, SE cor. SW SW Section 10-7-8, was completed

for 3 bbls. from 2,890-2,930 feet. Radial Oil Co.'s No. 1 Foster, NW cor. SW SW Section 14-7-8, was completed for 8,000,000 feet of gas from 1,140-88 feet. Southern Oil Co.'s No. 1 Shawneege, NW cor. NE SW Section 14-7-8, was dry and abandoned at 1,152 feet.

McIntosh County

R. D. Pine and others' No. 1 Monday, C NW NW Section 6-12-14, is a rig.

Muskogee County

Hall and others' No. 3 Kelly, NW cor. SW SE NE Section 5-14-19, is a machine. Christe and others' No. 3 Tiger, NW cor. SW NE NE Section 1-14-18, was drilling at 600 feet. J. L. Selby's No. 8 Brown, SE cor. SW NW Section 35-15-15, was drilling at 700 feet.

Oklahoma County

Clements and others' No. 2 Little, NE cor. NW NE Section 27-11-3w, is a location. Phillips Petroleum Co.'s No. 2 Walters, NW cor. SE SE Section 22-11-3w, is a location. Same company's No. 2 Stamper, SW cor. NE SE Section 22-11-3w, is a location. Russell Petroleum Co. and others' No. 1 Russell, CSL NE NW Section 22-11-3w, was completed for 1,454 bbls. of oil in 24 hours from 6,580-90 feet. Klinkscale-Brown and others' No. 1 Dennis, CEL NW SE Section 22-11-3w, was completed for 3,633 bbls. in four hours from 6,434-6,520 feet. Cromwell-Franklin Co.'s No. 16 Trosper Park, C SE NW NE Section 13-11-3w, an old well plugged back, total depth 6,400 feet, plugged back to 5,375-5,401 feet, completed for 65,000,000 feet of gas.

Okmulgee County

Castleman and others' No. 8 Thomas, SE cor. NW SE Section 23-14-14, was spudding. Taylor and others' No. 1 Chefote, SE cor. NE SW Section 20-15-13, was dry and abandoned at 2,070 feet. Appleby and others' No. 2 Anderson, NW cor. SE NE Section 3-15-14, was dry and abandoned at 1,565 feet. Dodge Brothers' No. 5 Rentie, SW cor. Section 11-15-14, was completed for 5 bbls. from 840-66 feet. Hendricks and others' No. 1 Lefford, C NW NE Section 17-13-12, was completed for 1,500,000 feet of gas from 2,065-2,113 feet. Rebold and Clark's No. 7 Williams, NW cor. NE Section 22-13-12, was completed for 20 bbls. from 2,885-2,901 feet. Mack Drilling Co.'s No. 2 Misco, NE cor. SE SW Section 30-13-14, was dry and abandoned at 1,750 feet.

Okfuskee County

Vivian Oil Co.'s No. 1 Johnson, SE cor. SW NW Section 34-11-11, was drilling at 500 feet. Burke-Greis Oil Co.'s No. 1 Scott, C NE NE Section 20-10-10, was dry and abandoned at 4,178 feet.

Osage County

Peter Petroleum Corp. and others' No. 2, SE cor. SW NE Section 24-24-7, is a location. Ohio-Osage Oil Co.'s No. 3, SW

(Continued on Page 78)

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	S.D. 1,232 ft.

ATOKA COUNTY

Barton's No. 4 Miller, SE NW SE SW Sec. 26-1-14	S.D. 505 ft.
Hicks' No. 2 Morris, SE NE NW SE Sec. 5-1-15	Drlg. sand 69-155 ft; estimated 2 bbls; S.D. 215 ft.
Hick's No. 2 Morris, SE NE NW SE Sec. 5-1-15	Est. 2 bbls. at 69-155 ft.
George's No. 1 Reddin, SW NE SW Sec. 19-1-15	S.D. 640 ft.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	S.D. 1,210 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-22-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 3,575 ft.

BLAINE COUNTY

Watonga Petroleum Co.'s No. 1 Masters, SW NW NW, Sec. 27-16-11w	S.D. 1,175 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	S.D. 1,115 ft.

COAL COUNTY

Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 35-1-8	Drlg. 825 ft.
Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 2,750 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	S.D. 1,450 ft.

CREEK COUNTY

O. O. Owen's No. 1 fee, NW cor. Sec. 23-15-7	Drlg. 1,590 ft.
E. L. Jillson et al's No. 1 Starr, SE NW Sec. 18-15-8	Drlg. Wilcox 3,852-64 ft; est. 307 bbls.

CUSTER COUNTY

Miley Pet. Co.'s No. 1 Caldwell, NE Sec. 12-14-14w	Location.

ELLIS COUNTY

Algers Pet. Co.'s No. 1 Roper, C SE NW Sec. 21-20-24w	S.D. 50 ft.

GRADY COUNTY

English Drlg. Co.'s No. 1 Heenan-Coe, NE SE NE Sec. 32-3-7w	Show oil 3,255-87 ft.; to test; drlg. out cmt.; swbd. 3 bbls. per hr., est. at 50 bbls. daily; running tubing to pump 20 bbls. and drlg. deeper at 3,300 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW Sec. 23-7-21w	S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19	S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-19-9	S.D. 200 ft.

KAY COUNTY

Crawford & Long's No. 1 Richards, SW NW Sec. 4-25-1w	S.D. 285 ft.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1	Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2	S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w	Rig on ground.

KIOWA COUNTY

McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.)	T.D. 1,902 ft.; C.O.
McWhirter Bros.' No. 1 Kline, SE NW Sec. 5-6-16w	S.D. 830 ft.
Christian's No. 1 Jones, NE SE Sec. 8-7-18w	S.D. 1,610 ft.

LINCOLN COUNTY

Sovereign Oil Co.'s No. 1 Flowers, SW SE SE Sec. 14-12-3	Drlg. 5,525 ft.

LOGAN COUNTY

Eason Oil et al's No. 1 Gun Club, NW NE Sec. 10-16-4w	Drlg. 5,710 ft.

NOBLE COUNTY

Stanolind O. & G. Co. et al's No. 1 Kalb, C NE NW, Sec. 33-20-2w	Drlg. 2,712 ft.
Rollins et al's No. 1 Frank, SE SW Sec. 6-20-2w	Rig.

OKLAHOMA COUNTY

Carter Oil et al's No. 1 Shawbell, C SW NE Sec. 1-13-4w	Drlg. 6,100 ft.
Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w	S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w	S.D. 5,515 ft.

PAWNEE COUNTY

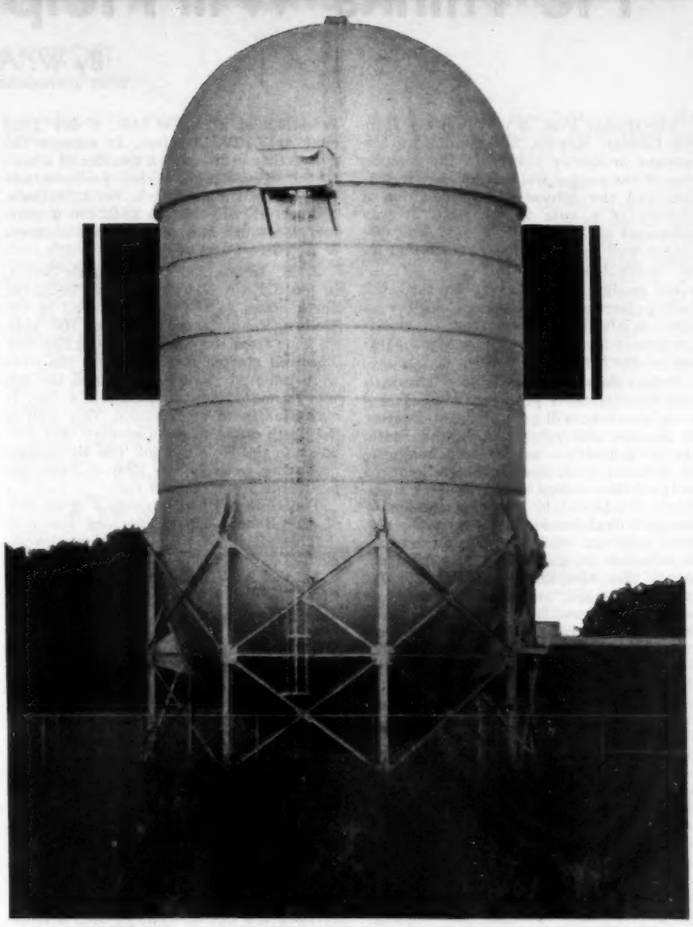
G. N. Maineas and Westfield Drlg. Co.'s No. 1 Schildberg, NW SW NW Sec. 27-22-6	Location.
Deep Rock's No. 1 Crow, NE SE Sec. 26-23-5	Rig.
Rookstool's No. 1 Wylie, NW NE SW Sec. 6-20-5	S.D. 1,950 ft.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, NW cor. Sec. 14-8-14	S.D. 1,675 ft.

(Continued on Page 64)

GRAVER



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Commissioner Thurman Hill Has Program Which He Thinks Will Help Oil Industry in Kansas

By W. A. SPINNEY
Staff Correspondent, Kansas Fields

The Hollow Pool, in northwestern Harvey County, Kansas, is becoming an important producing area with the completion of the second well in the chat formation and the extension of production a quarter of a mile to the west. It was estimated at 2,400 bbls. a day. The discovery well in the Hollow Pool found its oil in the Hunton lime.

Oil production in Kansas for the week ending December 3 shows a decline of about 6,700 bbls. per day from the previous week's figures, making the daily average of the State 95,600 bbls.

Public Service Commissioner Thurman Hill has drafted a proposed new oil program which he will present in the interest of Kansas and producers in the State. He is quoted as having said that the oil industry in Kansas would be reduced to insolvency unless some remedial measures are adopted by the next session of the state legislature. He advances a six-point program, which he suggests should be adopted in substance. His program would give the State authority to fix crude oil prices, regulate pipe lines as common carriers, in addition to a wide revision of the gasoline tax law. The program is as follows: Reduce state gasoline taxes from 3 to 2 cents, collecting the tax at the source and at ports of entry in the State; repeal the present gasoline exemption law and re-enact the prior law which gave to the farmers an exemption for agricultural uses by first paying the tax and then securing the exemption by sworn affidavit to the county clerk; a graduated reduction in the cost of license tags from 25 to 50 per cent, permitting car owners to purchase said tags, if they wish, for a six-month period by paying half of the annual fee in advance; adoption of a stringent law for the prevention of gasoline tax evasion; adoption of a model conservation law that would give the State the right to curtail production to meet market demand; restrict unnecessary drilling, allocate the demand among pools, and give the commission power to deny the nominations of a purchasing company that offered to buy crude oil in Kansas below the highest prevailing market price, with the provision that at no time should the State authorize the sale of any crude oil below the price determined by the U. S. Tariff Commission to be fair and reasonable price for Mid-Continent crude oil; a provision making all pipe lines bona fide common carriers and divorcing pipe lines from the producing, refining and marketing parts of the business.

The information gained as a result of the recent potential tests in two separate areas in Kansas, indicates that the potential production of the State will show a substantial decline. On July 1, the potential production of the State was estimated at 280,000 bbls. daily, but since the completion of the recent tests in the Ritz-Canton-Decker Field in McPherson County, the largest producing flush area in the State, and the potential tests in the Stratman Field in Ellsworth County, many estimate the potential of the State has declined at least 40 per cent.

The Ritz-Canton-Decker Field declined approximately 42 per cent in a six-month period and the Stratman area declined approximately 35 per cent, in a like period. Both of these potential tests were taken on a 24-hour gauge of all wells.

The second chat producing well was found in the Hollow Field in Harvey County, flowed wild for about 24 hours and then was shut in. The well is Producers & Refiners Corp.'s No. 1 in the NE cor. NW SE, Section 19-22-3w, which is estimated at 3,000 bbls. a day from chat at 3,165-3,208 feet. It extends the production in the pool a quarter of a mile to the west. The first chat producer was Frost, Lloyd and Study's No. 1 Martens, NE cor. SE SE, Section 19-22-3w, a quarter mile south and east of the Producers & Refiners Corp.'s well.

J. E. Mabee, Inc., and other's No. 1, in the SE cor. NE SE, Section 19-22-3w, north offset to the discovery well in the Hollow Field, is estimated at 100 bbls. an hour from the chat at 3,190-3,226 feet. The well started to flow before the tools were removed from the hole and the gas was estimated at 2,500,000 feet a day. It was shut in to erect tanks. This well is the north offset to the discovery chat producer in the Hollow Pool. The eight other producing wells in the Hollow Field are producing from Hunton lime.

The Hollow Field is about 3 miles east of the Reno County line and indicates that development will be in a southwest-northeast direction.

In the Nickel Pool, the new Hunton lime area of McPherson County, J. E. Mabee, Inc., and Shell Petroleum Corp.'s No. 1 Koehn, NW cor. SW NE Section 33-21-3w, is cleaning out after a shot of 30 quarts from 3,448-58 feet, in the Hunton lime, with a total depth 3,484 feet. The well swabbed 204 bbls. on November 19 and 315 bbls. on November 20 before being shot. No production test has been made since the shot.

Developments in the Blake Field in Reno County include the Gled Oil Co. and Skelly Oil Co.'s No. 2 Frantz, NE cor. NW Section 2-24-4w, which has landed 8-inch casing at 3,493 feet. It will be the first deep test in the Blake Field below the chat formation. The hole will be drilled deeper with cable tools.

Olson Oil Co. and others' No. 2 Rudicel, C NW SE Section 24-23-4w, in the Blake district, is expected soon to reach the chat formation where the casing will be landed. It was drilling at 3,175 feet.

Gypsy Oil Co.'s No. 1 Krehbiel, C NW NE Section 35-23-4w, Reno County, was bailing the hole in chat at 3,236-3,326 feet, where it made 22,500,000 feet of gas a day. This test is a quarter of a mile east of the Olson Oil Co. and Shell Petroleum Corp.'s No. 1 B. Goering, which was completed for 55,000,000 feet of gas per day.

Shell Petroleum Corp.'s No. 5 Johnson, SE cor. SW Section 35-19-3w, in the Johnson Pool, McPherson County, was drilled deeper and increased its production to 240 bbls. in 16 hours on a swabbing test. It was drilled deeper from 3,035 feet to 3,038 feet, with only a small amount of gas showing in the well. It is located on the east side of the Johnson Field.

Skelly Oil Co.'s No. 3 Leisman, NW cor. Section 29-27-10w, Kingman County well, has landed a string of casing at 3,360 feet, and it is expected to be completed in the Kansas City-Lansing lime in a few days with cable tools.

A meeting of the Kansas Public Service Commission and of operators in the prorated areas was held in Wichita, December 1 to consider the petition of the Derby Oil Co. to separate the production in the Hunton lime area in Section 33-21-3w, McPherson County, from the production in the original Voshell Field, for the purpose of making it a separate area, and making separate nominations apart from any other area.

A second complaint was filed by the Dickey Oil Co. in regard to the inequitable taking of oil from chat wells in the Ritz-Canton-Decker Field, in McPherson County.

Neither of the questions involving oil production in the two areas was settled at the hearing. The commission took the testimony under advisement.

The Derby Oil Co. made nomination to purchase half of the oil from the Nickel Pool in Section 33-21-3w, southern McPherson County, where the wells found production in the Hunton lime, the second area in the State to produce from that formation. Operators were generally agreed that the Hunton lime production in no manner can be classed with the Siliceous lime production. In no case of record in Kansas has oil been found under the Hunton lime, and an order separating it from other production was sought. The Nickel Pool, with its three wells, is estimated to have a potential of 3,500 bbls. daily. The Derby Oil Co. has the only pipe line into this pool and owns one of the producing wells.

Dickey Oil Co. requested the commission to make an adjustment on the chat production in the Ritz-Canton-Decker area. The company called attention to the fact that wells offsetting its Decker lease in Section 35-19-2w, were being given 100 bbls. a day minimum allowance, while Dickey Oil Co.'s wells were being compelled to take reductions in allowables because of natural decline. The company asked that all wells, allowed to produce under the minimum allowable, be subject to a proportionate reduction in production.

The Kansas Public Service Commission referred both requests to the Kansas oil advisory committee of which Marvin Lee is chairman.

Cowley County

T. M. Deal's No. 1 Konrich, NE cor. NW Section 27-32-4, is a rig. Wakeford and others' No. 1 Walnut Valley, SW cor. NW SE Section 22-32-4, was completed for 435 bbls. from 2,320-25 feet.

Chase County

Polhamus and Skelly Oil Co.'s No. 2 Leedy, SW cor. SE SW Section 25-22-9, was completed for 100 bbls. from 2,485-2,518 feet.

Ellis County

Phillips Petroleum Co.'s No. 1 Bennis, SW cor. Section 33-11-17w, is a rig.

Ellsworth County

Mid-Kansas Oil & Gas Co.'s No. 1 Kanak, NE cor. SW Section 15-16-7w, is a location.

Greenwood County

Sinclair Prairie Oil Co.'s No. 3 Davis, SE cor. Section 6-24-12, was completed for 50 bbls. from 1,703-29 feet. Young and others' No. 1 Coffman, SE cor. SW NE Section 10-24-12, was dry and abandoned at 1,847 feet.

Harvey County

Reser, Ross & Lee's No. 1 Wall, NW cor. SW Section 4-22-3w, is a rig. McComb and The Texas Company's No. 1 Dyck, SW cor. NE SW Section 8-22-3w, is a location.

McPherson County

Stanolind Oil & Gas Co.'s No. 4 Zerger, SW cor. NW SE Section 16-21-3w, is a location. Derby Oil Co. and others' No. 3 Neufeldt, SE cor. NE SW Section 21-21-3w, is a location. Same company's No. 4 Neufeldt, SW cor. NE SW Section 21-21-3w, is a location. Lario Oil & Gas Co. and others' No. 3 Miller, SW cor. SE SE Section 24-19-2w, was a location. Twin Drilling Co. and others' No. 3 Wiles, NW cor. NE NE Section 25-19-2w, is a location. Same company's No. 3 Gratton, SW cor. SE SE Section 20-19-2w, is a location. Phillips Petroleum Co. and others' No. 3 Garrett, NW cor. NE NE Section 30-19-1w, is a location. Darby Petroleum Co.'s No. 1 Kaegi, SE cor. SW NE Section 20-19-1w, an old well drilling deeper, is rigging, total depth 2,969 feet. McPherson Oil & Gas Co. and others' No. 2 Hill, SW cor. NE Section 10-19-2w, an old well drilling deeper, is rigging, total depth 2,943 feet. Mohawk Oil Co. and others' No. 1 McGill, SW cor. NE Section 7-20-1w, an old well drilling deeper, was rigging, total depth 3,431 feet. Carter Oil Co.'s No. 1 Tinsley, NW cor. SW Section 6-20-1w, an old well drilling deeper, was rigging, total depth 3,425 feet. All States Oil Co. and others' No. 1 Neufeldt, SE cor. SW NE Section 21-21-3w, an old well drilling deeper, total depth 3,143 feet. Gypsy Oil Co.'s No. 2 Kinney, SW cor. Section 34-20-3w, an old well drilling deeper, will test Siliceous lime at 3,427-34 feet. Same company's No. 3 Kinney, NW cor. SW SW Section 34-20-3w, was completed for 271 bbls. from 3,442-44 feet. Washoma Oil Co. and others' No. 2 Meeks, NE cor. SW, Section 7-20-1w, an old well drilling deeper, was completed for 300 bbls. from 3,443-47 feet.

Rice County

Twin Drilling Co. and others' No. 3 Rice, SW cor. SE NE Section 3-21-6w, is a location.

Reno County

Skelly Oil Co.'s No. 1 Cole, C SE NW Section 4-26-8w, is a location.

Sedgwick County

Gypsy Oil Co.'s No. 7 Hanant, NE cor. NW NW Section 14-26-2, was completed for 509 bbls. from 3,151-56 feet.

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Sinclair Prairie Oil Co.'s No. 1 Turgeon, C NE NW, Sec. 3-16-12w	Drlg. 310 ft.
Rankin's No. 1 Soocy, C SW NE Sec. 34-18-12w	Rig.
Doherty et al's No. 1 Roesler, SW NE Sec. 11-18-11w	S.D. 1,975 ft.
Smith et al's No. 1 Wilson, C NW SW Sec. 13-18-14w	Drlg. 3,428 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w	Set liner 3,530-46 ft.; show oil; S.D. 3,605 ft.

BUTLER COUNTY

Cameron-Great Basin Oil Co.'s No. 1 Landon, C SE NW Sec. 13-28-2	Drlg. 3,275 ft.
Ramsey's No. 1 Michael, SW NW NW Sec. 18-27-3	Drlg. 3,141 ft.

COWLEY COUNTY

Roth & Farout's No. 1 Craig, SE cor., Sec. 2-32-3	Drlg. 1,868 ft.

DICKINSON COUNTY

Severs' No. 1 Livingood (O.W.D.D.), SE NW Sec. 13-13-31	S.D. 4,900 ft.

EDWARDS COUNTY

Mid-Kansas O. & G. Co.'s No. 1 Converse, SW NE NE Sec. 30-24-18w	T.D. 5,319 ft.; dry and abnd.

(Continued on Page 64)

South Mississippi Counties to Be Tested Soon; Revival in Louisiana and Arkansas Fields

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Dec. 5.—Eighteen new locations, 7 of them in Township 11-7, the Zwolle "hot spot," 2 rank wildcats in Arkansas and 3 in Mississippi; and 25 completions, 12 of them locations and old wells abandoned after being inactive over a period of months, give a fairly accurate index to the growing activity in Shreveport territory. Considered in connection with leasing activity in North Louisiana and the big play along the Conroe-Jackson trend it promises much for the ensuing few months. Converse remains a situation yet to be proved. Miller County, Arkansas, had a slight flurry over a pending test of 11 feet of sand in a Garland City wildcat and there are reports of many blocks being completed in North Louisiana. As to the latter, however, no definite information is being broadcast.

Joe Modisette of El Dorado, Ark., is reported to have closed contract with the Eastman-Gardner Lumber Co. to drill its holdings in south Mississippi counties, amounting to several hundred thousand acres, but details as to counties, township and range, in which the locations are to be made have not been learned. According to what information is available, the contract calls for five wells, four to be drilled to 3,500 feet and one to 7,500 feet "unless"; all to be drilled during the ensuing year. This, like the increasing activity in North and Central Louisiana, indicates that Mississippi will be a very active locality during 1933.

Following Jack Whitson's experiment with muriatic acid on his No. 1 Sanders, Section 19-11-13, DeSoto Parish, as a means of increasing porosity, or softening, the chalk in which he had a show of oil at around 1,470 feet, Sabine Production Co. is reported to be making the same experiment on No. 1 Pierce in Section 10-7-11 in the Zwolle district of Sabine Parish. This will be an even more interesting experiment than the Whitson test as it will show what may be expected of the acid process in a known, proven, chalk field. Possibly some of the present small pumpers will be taken off the beam and "dosed." The Sabine's Pierce well is one of these—completed several months ago with an initial 600 bbls. and now pumping around 25 to 30 bbls.

NORTH LOUISIANA

Nick Barbare's No. 1 Ryals in the NW cor., Section 27-9-13, Converse, will be the next well to test. It topped the marl at 1,535 feet and cemented 6-inch at 1,515 feet, total depth 1,555 feet. The two wells in Converse that have produced so far did so from 1,490-1,516 feet. Gibson & Johnson decided to not try to make a well of No. 2 Frost-Johnson in Section 15-9-1, 2 miles north of Barbare's well and the second test to show for commercial production in Converse, but drilled deeper on swabbing 10 to 15 bbls. daily after allowing it to stand overnight, and were drilling chalk at 1,650 feet. Lee & Burnette are shut down at 1,635 feet on No. 1 Burkett, Section 10-9-13, three-quarters of a mile northwest of the Gibson-Johnson well after a core at the 1,470-foot level failed to show any sand.

All of the territory's 375 bbls. of new production was in Zwolle. Capitol-Crescent Oil Co.'s No. 1 Byrd, Section 1-7-11, was flowing 75 bbls. by heads from 2,470 feet; E. F. Neely's No. 4 Ponder, Section 15-7-11, made 200 bbls. by heads from 2,585 feet; and Skidmore Oil Corp.'s No. 2 G. Martinez, Section 3-7-13, on the west edge of Zwolle, pumped 100 bbls. from 2,330 feet. The first two wells will be standardized. The following old wells that have been inactive for some time were written off as abandoned: Adams & Robertson's No. 1 Peterson, Section 35-8-13, 10-inch set at 100 feet; Mrs. Dabney and others' No. 1 William Hill, Section 5-7-11, and No. 2 Hill, same section, locations; Imperial Producers Co.'s No. 1 Leone estate, Section 32-8-12, location: H. C. Pitts and others' No. 1 Trammell, Section 5-7-11, location; Thornton and others' No. 2 S. S. Martinez, Section 4-7-11, location. Active wells abandoned during the week were: John R. Bunn's No. 1 Sabine Lumber Co., Section 9-7-13, dry at 2,422 feet; W. F. Lacy's No. 3 Cooper, Section 30-8-11, dry at 2,601 feet; H. C. Maulding's No. 1 Moorer, Section 16-7-13, dry at 2,494 feet; H. H. Stout and others' No. 1 Byrd, Section 1-7-11, dry at 2,690 feet; and C. H. Tuttle's No. 3 Byrd, Section 7-7-10, abandoned, 2,727 feet.

Bossier Parish

In Bossier Parish the two wildcat prospects were still prospects. Breazelle and Steckoll's No. 1 Nattin, Section 15-22-14, was shut down after swabbing a few barrels of oil from 3,018 feet and Plain Dealing Oil & Gas Co.'s No. 1 Nattin, Section 15-22-14, was shut down for orders at 2,960 feet. Texana Oil & Gas Co. abandoned No. 1 Alford and others, Section 10-18-11, as a dry hole at 1,705 feet. In Caddo, Louana Oil & Gas Co.'s No. 1-A Hammeck, Section 5-18-16, was a 13,000,000-foot gasser at 2,767 feet, about an average well for the Blanchard gas district northwest of the old Greenwood gas field of two or three years ago.

Loring Oil Co.'s No. 1 Simonton, Section 25-20-4, Lincoln Parish, one of the half dozen or so really deep tests going on in the territory, appears to be checking a little high when compared to other similar wells drilled within a radius of a few miles during the past 10 years. It is shut down at 3,965 feet for fuel. United Gas Public Service Co. made location in the NE SW, Section 1-19-6, Claiborne Parish, for No. 1 Stephenson-Kilpatrick and others which, if successfully completed, will be a slight western extension of the Sugar Creek Trinity gas field.

Dr. H. S. Gerson's No. 1 Smith, in Section 11-10-8, Natchitoches Parish, a shallow gasser at around 500 feet, drilled deeper and shut down at 1,875 feet last June, is listed as a salt water hole at that depth. Meantime, he has made location on an island in Red River and has set one joint of 10-inch surface casing on No. 4 Smith in Section 11-10-8. R. A. Keaton abandoned location for No. 1 Bastrop State Bank, Section 17-10-6, and his No. 1 Stephens, Section 25-10-6, was a salt water test at 1,700 feet. Sabine Bayou Development Co.'s No. 1 Bodcaw Lumber Co., Section 9-12-15, was dry and abandoned at 2,690 feet.

Seven new operations were started in the Zwolle "hot spot" as follows: E. F. Neely's No. 6 Ponder, SW NW, Section 15-7-11, derrick; Nowlin & Cherry's No. 1 Turner, NW NW, Section 4-7-11, location; H. C. Maulding's No. 1 Brumley, Section 2-7-11, derrick; Sam Riggs, trustee's No. 1 Darby, N half SE, Section 21-7-11, derrick; Service Drilling & Royalties Corp.'s No. 2 Smith, Section 12-7-11, derrick; Crescent Drilling Co.'s No. 1 Garner Estate, NE NE, Section 4-7-11, rigging up; Baird Brothers' No. 1 Tatum, SW NE, Section 25-8-12, derrick.

Bridges & Clark, drilling in the old Pleasant Hill territory, set tubing in No. 4 Williams, Section 33-10-11, lost one joint and were fishing for it, total depth 3,280 feet in chalk.

ARKANSAS

Fox and Langford's No. 1 Coleman in Section 25-16-25, Lafayette County, looked as if it might have a show at 2,740 feet but tested salt water in the Blossom, drilled to 3,272 feet and was abandoned as a dry hole. There is some talk of another test in the south by the same interests but it will be two or three weeks before any conclusions are reached. In Columbia County, Kendall Oil Co. tested a show of oil and gas in No. 2 Fullenwider, NE NE, Section 13-17-22, in sandy shale at 2,520 feet but it failed to respond, salt water showing up after it had bailed down 1,100 feet, presumably on account of a bad casing seat.

One of Arkansas' new rank wildcats is located in Jefferson County and is R. V. Harrell and others' No. 1 McGoughey in the NW cor., Section 22-7-10, a location. Not much seems to be known as to how large a block they have or how deep they plan to go. The other is Rainbow Oil & Gas Co.'s No. 1 Barrett in the NE NE, Section 16-5n-24, Yell County. This location is south of the Clarksville gas district exploited two or three years ago by Arkansas Pipe Line Co.

Miller County

In Miller County, Duluth-Arkansas Oil Co. was arranging to test 11 feet of sand at 2,785-96 feet in No. 1 H. E. Beck, Section 34-15-26, apparently quite higher than a sand struck in Fitzwater and others' No. 1 Beck, a half mile west; so high that some opinion thinks it is not the same stuff that the latter well found. This latter well, in Section 33-15-26, flowed 25 bbls. through 4½-inch casing from 2,932 feet but after several days stopped and on last report was fishing for swab lost in an attempt to start it flowing again. Sorrell & Tidwell got the Nacatoch at 780 feet on No. 1 McCowan, NW SE, Section 22-15-28, and shut down. The two new locations in Miller were Foster and others' No. 1 H. F. Smith, Section 29-16-26, a derrick, and Stephens, Byers and Sartain's No. 1 Lowe, NW NW, Section 14-16-27, also a derrick. E. H. Cassidy, trustee, has derrick pattern on location for No. 1 F. L. Dumas, a wildcat north of Lisbon production in Union County.

Production Declines

Daily average runs from the field continued their decline of the past two weeks, the movement totaling 61,900 bbls., being 880 bbls. less than the week before. Runs from the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo light	5,100
Caddo heavy	1,560
Cotton Valley	700
DeSoto-Red River	1,845
Elm Grove	380
Haynesville	3,575
Holly	240
Homer	2,600
Pleasant Hill	275
Sarepta-Carterville	800
Urania	3,425
Zwolle	7,600
Total	28,400
Last week	28,895
Decrease	495

ARKANSAS

Champagnolle	1,565
El Dorado	2,755
Lisbon	465
Nevada County	900
Smackover light	2,855
Smackover heavy	23,400
Stephens	350
Urbana	1,310
Total	33,500
Last week	32,885
Decrease	385
Both states	61,900
Last week	62,780
Decrease	880

Texas Border Counties

Ryan Consolidated Petroleum Co.'s No. 1 Furrh, in the T. J. Copelin Survey, Harrison County, Texas, in the Elysian Fields district, after coring a deep Trinity stratum that looked as though it might produce the same gas as the Arkansas Natural Gas Co. got to the north, tested dry and abandoned the hole at 5,146 feet.

Carter & Skidmore made location 185 feet north and 185 feet east of the southwest corner of C. J. Wooten tract in the P. Martin Survey of Panola County, for No. 1 Wooten and have derrick up. Two Shelby County wells that have been inactive for a long time were written off as dry holes; Henry Maulding's No. 1 Frost Lumber Co. in the A. D. Fountain Survey, location for second hole 100 feet north of first hole, junked at 3,276 feet, abandoned, and E. L. Chapman's No. 2 Pickering Lumber Co. in the C. E. Henry

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Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

AVOYELLES PARISH

Company, well, farm name, section and block— Remarks:

T. J. Woodley, tr.'s No. 1 Thompson & Kolts, 2,640 ft. E, 200 ft. S, NW cor. Sec. 11-2n-5e ..... Coring shale 1,692 ft.

BEAUREGARD PARISH

DeRidder Dev. Co.'s No. 1 McMahan, 158 ft. S, 160 ft. W, NE cor. NW Sec. 33-2s-9w ..... S.D. 1,265 ft.

Trapp Oil Syndicate's No. 1 Long-Bell Lbr. Co., Sec. 25-2s-9w ..... Location.

BIENVILLE PARISH

Black Lake Dev. Co.'s No. 1 Petty Stave Co., NW NW Sec. 19-18-6w ..... S.D. 2,655 ft.

R. S. Ross et al's No. 1 W. M. Beck, NE NE Sec. 5-18-3.. Rig up.

BOSSIER PARISH

Breazelle & Steckoll's No. 1 Nattin, C SW NE, Sec. 15-22-14 ..... Set 6-in. 2,967 ft; swabbing; show oil and gas; T.D. 3,018 ft.

Breazeale & Steckoll's No. 2 Nattin, 300 ft. S and W, NE cor. NW NE Sec. 22-22-14 ..... Derrick.

A. W. Phillips, tr.'s No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-18-13 ..... Set 10-in. 96 ft; S.D.

CADDO PARISH

Bolinger & Walker's No. 1 Thompson, SE SW Sec. 16-22-14 ..... Derrick.

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Conroe Area Hits 64,100 Bbls. One Day Peak; Pledger Section May Be Important Field

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Dec. 5.—Daily production of the Conroe Field climbed to a new peak of 64,100 bbls. the past week when the field was opened following a decision of the State Supreme Court upholding an injunction which the Alpha Oil Co. had obtained restraining the Railroad Commission from enforcing proration orders against its properties. However, under the new proration orders which went into effect December 1 and which have been issued since the passage of the market demand law, production again has been curtailed and now is down to the allowable of 25,000 bbls. daily which has been set for the field.

The peak was reached for the 24 hours ending at 7 a. m., December 1, with 66 wells producing. Only wells of the Alpha Oil Co. and offsets and W. B. Hamilton's No. 1 Moorehead, which operated a separate injunction, granted C. H. Lewis, owner of one-eighth interest in this well, were opened. The original proration orders continued to be enforced against other wells in the field. The wells affected were opened November 27, and in the 24 hours ending November 28 the field produced 47,571 bbls. from 60 wells; the next day 51,136 bbls. from 63 wells; the next day 51,325 bbls. from 64 wells, and the last day 64,100 bbls. from 66 wells. For the 24 hours ending December 2, which was the first day under the new proration orders, the field flowed 24,892 bbls. from 67 wells.

The new allowable of 25,000 bbls. is effective for the month of December and is being allotted pro rata to all wells based on the 20-acre unit plan upon which the field is being developed. Adjustments in per well allowances are being made each four days based on the number of wells and units at the beginning of each adjustment period with new wells being allowed to flow the apportionment set for each respective period. For the first period (December 1 to 4, inclusive) the per well allowable figured 402 bbls. for 20-acre units.

Production Extended

Producing limits of the field were given a substantial eastward extension during the week with the completion by Humble Oil & Refining Co. of its No. 1-A Hirsch, located in the D. McIntyre Survey. This well at a total depth of 5,148 feet came in flowing at the rate of 120 bbls. per hour through one-half inch choke with a tubing pressure of 700 pounds. Humble's No. 1 J. W. McDonald, located in the John Davis Survey and at the extreme northeast end of the present field, also was among the important completions, flowing 103 bbls. per hour through one-half inch choke, from sand at a total depth of 5,160 feet. Tubing pressure was 600 pounds. This well is a southeast offset to James Papadakis' No. 1 McDonald, whose completion two weeks ago extended the field northeast and led the way to new drilling in that direction.

Other completions at Conroe for the week were: Hamilton, Hill & Hill's No. 2 E. Moorehead, L. A. Lang Survey, east edge, 75 bbls. per hour, 5,110 feet; Humble's No. 2 Madeley, Ransom House Survey, 59 bbls. per hour, 5,164 feet; No. 3 Madeley, same survey, 87 bbls. per hour, 5,149 feet; Humble's No. 22 South Texas Development Co., Theodore Slade Survey, 95 bbls. per hour, 5,153 feet; No. 23 South Texas Development Co., Theodore Slade Survey, 81 bbls. per hour, 5,181 feet; No. 26 South Texas Development Co., 99 bbls. per hour, 5,169 feet; Violet & Griffith's No. 1 Mrs. Fannie Hooper, DeMoss Survey, 94 bbls. per hour, 5,128 feet; Violet & Griffith's No. 6 Mrs. Fannie Hooper, DeMoss Survey, 90 bbls. per hour, 5,151 feet.

Sand to Southwest

Tidal Oil Co. and G. W. Strake's No. 1 Lewis, Charles Stewart Survey, southwest of the Conroe Field, picked up saturated sand and at a total depth of 5,085 feet now is standing waiting on cement to set after running 7-inch casing to 5,048 feet. This well, which created considerable speculation when it was found to be running unexpectedly high, opens possibilities for a new development play in that direction. It previously had been looked upon by many operators as doubtful territory as the field's play was toward the southeast.

A total of 43 rigs were actually running in the field at the close of the week. A dozen new locations were made with derricks going up. There were 69 producing wells December 3 although a half dozen others were preparing to test.

Standard Oil Co. of Kansas the past week completed purchase of two additional tracts in the Conroe Field, including 65 acres in the Ransom House Survey purchased from W. M. Cummings, J. M. Josey and J. E. Josey, Jr., and 103 acres in the W. S. Rhodes Survey bought from J. M. Josey and J. E. Josey, Jr. This company, one of many newcomers to the coastal district, has another 20-acre lease at Conroe in the J. McHorse Survey, on which it recently got a good producer.

Pledger Discovery

Danciger Oil & Gas Co.'s No. 1 W. C. Hunt, W. Coirson Survey, northwestern Brazoria County, which was brought in November 27 as a dry gasser and the discovery well of the Pledger geophysical prospect, was opened again Friday afternoon after being shut in all week and after cleaning itself started showing a spray of distillate. It again has been shut in until a separator and storage can be provided. The well showed a pressure of 2,675 pounds through chokes. It originally was shut in before cleaning itself because of the high pressure which developed. Since then the cellar has been filled with cement and precautions taken to prevent the well from getting out of control.

The well is looked upon as the forerunner of an important field. Production is from a Oligocene sand at 6,758-82 feet, in which 23 feet of 5⅞-inch screen was set on a full string of 4½-inch liner. Hamill Drilling Co. of Houston owns a quarter interest with Danciger Oil & Gas Co. in the well.

Gulf Coast Completions

Completions on the Gulf Coast in addition to those previously listed included Texas Gulf Producing Co.'s No. 4 Ilfrey, east side of Barbers Hill, 800 bbls., five-eighths inch choke, 140 pounds pressure; The Texas Company's No. 2 Wilburn, east side Barbers Hill, pumping 37 bbls., 20 per cent oil, 5,311 feet; Humble Oil & Refining Co.'s No. 7-A F. I. Booth, Rabbs Ridge, flowing 50 bbls. hourly, 5,250 feet; same operator's No. 6 Lockwood, Rabbs Ridge, 65 bbls. hourly, 5,300 feet; Humble Oil & Refining Co.'s No. 8 Woodley, Raccoon Bend, 586 bbls. daily, 3,610 feet; Yount Lee Oil Co.'s No. 32 Cade, High Island, 725 bbls., 5,232 feet; Ada Belle Oil Co.'s No. 160 Paraffin, Batson, pumping 5 bbls. net oil, 327 feet; Orange Petroleum Co.'s No. 3 Michael-Berwick, Orange, pumping 10 bbls. net oil; Sun Oil Co.'s No. 65 River, Humble, flowing initially 300 bbls. daily, 1,335 feet.

Victoria County

Houston Oil Co. and Magnolia Petroleum Co. have abandoned their No. 1 Beck, I.R.R. Survey No. 26, northern Victoria County, in heaving shale at a total depth of 5,508 feet. This is the third deep test drilled by these operators on their joint block. All have been quit in heaving shale. The other two tests encountered heavy gas pressures but were unable to conquer the shale problem.

At Ariola

At Ariola, Hardin County, Republic Production Co. has abandoned No. 2 Ariola Fee following an unsuccessful fishing job. Bottom of the hole is 5,980 feet. This is the second failure on this dome, on which production was opened several months ago by Republic Production Co. and Houston Oil Co.'s No. 1 Ariola Fee. The latter well so far is the only producer. It is making considerable water, but has made water from the start. The Republic's abandonment is approximately three-quarters of a mile to the northwest of the discovery producer. Gulf Production Co.'s No. 1 Kirby, west of the former test, is drilling shale below 6,500 feet. Two other tests, Houston Oil Co.'s Nos. Y-1 and Z-1, both offsets to the discovery well, are drilling. Production in the first well is from a 4,000-foot sand overlying the salt.

Polk County

Dick Schwabb's No. 2 Davis, A. Viesca Survey, southern Polk County, proved somewhat of a disappointment when in a drill stem test of a sand at 4,402-38 feet it showed considerable water. However, the hole has been plugged to 4,428 feet to shut off water and operators believe they can make a fair well. At present the well is standing cemented with 7-inch casing at 4,338 feet, but plug is to be drilled early this week. Eighty feet of screen already is on the location. The test showed 1,800 feet of 40 gravity oil with 1,400 feet of salt water.

Encountering the water has not lessened the interest in the area, which has been closely watched since the completion of Schwabb's first well last October as a wet gasser indicating the probable existence of another important Hockley shore line field similar to Conroe. The first

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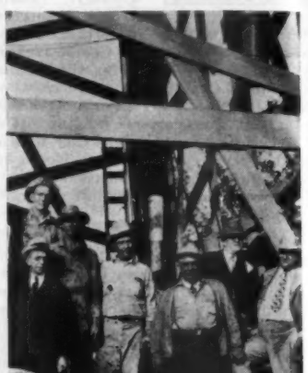

Picture taken on derrick floor of Danciger Oil & Gas Co. and Hamill Drilling Co.'s No. 1 Hunt, discovery well at Pledger, northwestern Brazoria County, Gulf Coast. In the group, left to right, are: J. H. Carreker (front), representative of Danciger Oil & Gas Co.; H. V. Myers (top), derrickman; Jewel Hobbins, helper; C. N. Crone, driller; W. D. McIntyre, field superintendent; C. G. (Curt) Hamill, president of Hamill Drilling Co.; Joe Danciger of Danciger Oil & Gas Co.

Gulf Coast Fields and Wildcats

Week Ending December 3

RACCOON BEND—AUSTIN COUNTY

Company, farm and location—	Remarks
Callicott et al's (Grant & Baker's) No. 1 Chesley, W. C. White Sur., 150 ft. from NW line and 150 ft. from SW line of 26-acre tract	Shut down 3,042 ft.
Humble Oil & Ref. Co.'s No. 4 S. E. Helmuth, Wm. Harvey Sur.	Location.
Humble Oil & Ref. Co.'s No. 8 Woodley, Wm. Harvey Sur., 2,386 ft. southeasterly along SE line from SW cor. of tract and thence 412 ft. northeasterly at right angles	Comp. flowing 586 bbls., 11/32-in. choke, 3,610 ft.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 10 Wisdom, A. Darst Sur., 440 ft. from NW line and 170 ft. from SW line of tract	Drlg. 3,310 ft.
Sinclair Oil & Gas Co.'s No. 3 Norton (W.O.), F. D. McNeel Sur., 230 ft. from NE line and 303 ft. from SE line of 150-acre tract	Comp. 60 bbls. net oil 3,651 ft.
H. Wisdom's No. 1 Wisdom, 50 ft. from SE line and 75 ft. from SW line of Blk. 5, Lot A, A. Darst Sur.	Rig.

MANVEL—BRAZORIA COUNTY

The Texas Company's No. 4 Belcher, Harvey Little Sur., 2,906 ft. S. 42 degrees W. and 400 ft. S. 48 degrees E. out of N cor. of lease	Derrick.

WEST COLUMBIA—BRAZORIA COUNTY

The Texas Company's No. 68 Hogg (W.O.), G. Tennille Sur.	Set 81 ft. of 3-in. screen 3,131 ft.; flowing by air.

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North Government Wells Pool Is Extended by 60 Bbls. Hourly Well; New Laurel Producer

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Dec. 5.—North Government Wells Pool was extended on several sides the past week with no dry holes yet anywhere to indicate limits to the field which now measures about 2½ miles long and fully a mile wide. Also the second test in the Tuleta Field in Bee County went into the Yegua showing 11 fourbles of oil on drill stem test and another well of around 1,000 bbls. daily was completed on the east side of the new Laurel Field in Webb County, the second test of that size in that field. These are among the principal features of the week in Southwest Texas territory.

In the North Government Wells Pool in Webb County, the Magnolia Petroleum Co.'s No. 1 J. Riley, 330 feet from the south and east lines of the northwest quarter of Survey 45, a half mile southwest of any other production except the Luse & Russ' No. 1-B Hahl which came in recently extending the field, came in from sand at 2,306-47 feet flowing at the rate of 60 bbls. an hour. It is 660 feet west and 660 feet north of the Luse & Russ' No. 1-B Hahl which was completed in sand at 2,283-2,301 feet for 40 bbls. an hour. The Texas Company has two producers on the D. J. Freer lease in the northeast corner of the northeast quarter of the survey which is the nearest production to these two outposts. The Luse & Russ producer is a good average producer at 40 bbls. and the Magnolia's at 60 bbls. is above the average of the field.

On the north end of the field, The Texas Company's No. 2 Wendt carried production 660 feet farther north. It is 1,050 feet from the north line of Survey 42 and 330 feet from the east line of the northwest quarter of that survey. This leaves room for only about one more well between it and the north line of the survey since tests are located 660 feet apart. North of Survey 42 in Survey 360 which is owned by the Humble Oil & Refining Co. The Texas Company's No. 2 Wendt came in for 40 bbls. an hour from sand at 2,224-57 feet.

East Side of Field Interesting

On the east side of the field there are two interesting propositions. R. B. Byrd's No. 3 Wright, the farthest east test in the field, came in for 12 bbls. an hour from the upper sand. The other tests on the north and west were from the lower sand. Byrd got the sand at 2,293-2,303 feet and the well is 814 feet from the west line and 330 feet from the north line of Survey 101 which on some maps is erroneously shown as Survey 107. It is located pretty well to the north of the field.

Magnolia Petroleum Co.'s No. 5 Johnson, 420 feet from the south line and 330 feet from the west line of the northwest of the southeast of Survey 44 from sand at 2,342-45 feet came in a dry gas well of about 20,000,000 feet which has thrown many people into consternation. Thus far it is not fully explained to the satisfaction of everybody and one of the most plausible explanations is a stray sand. It is too low to get dry gas in either of the sands. Dry gas or any kind of gas on the west side of the field would be no surprise as marking the up-dip limits of the field.

The Magnolia's test is 750 feet north of the San Diego Oil Corp.'s No. 1 Heller which drilled to 2,349 feet and got salt water in what everybody at the time supposed was the lower sand and it plugged back to the upper sand and made an oil well which was thought at that time to be pretty close to the east limits of the upper sand. It plugged back to sand at 2,310-20 feet where it made a 100-bbl. well.

If this field is eventually going to square up to the compass and be straight north and south it has an indicated width of nearly 2 miles and a length north and south of 2½ miles. The area of the producing wells at this time trends to northeast and southwest and has a length of 2½ miles and width of a little over a mile.

This does not take into consideration the Bissonett & McGinley well in the southeast corner of Survey 48, 1½ miles south and a half mile west of the Magnolia Petroleum Co.'s No. 1 J. Riley, and Luse & Russ' No. 1 Hahl. There is no surface geology and no dry holes to indicate that it will not extend that far, and nothing to indicate that it will not extend farther in every other direction. In fact many expect that it will extend in every direction.

Tuleta Field

In the Tuleta Field in northern Bee County, Taber & O'Neill on the south end of the field failed to get production in the Cockfield or Tuleta sand and went down another 200 feet to the Yegua and on drill stem test showed 11 fourbles of oil and 4 fourbles of brackish mud and will set casing. Dirks Brothers' No. 1 fee which was the first test in the field to deepen to the Yegua is a half mile west and a quarter of a mile north of the Taber & O'Neill well. Taber & O'Neill got the first sand at 4,108-18 feet and the Yegua at 4,315-22 feet.

Dirks Brothers' well came in for an initial flow of around 400 bbls. and then made some salt water which was variously estimated and fluctuated somewhat but at last reports had settled to 200 bbls. net of oil and 5 to 10 per cent additional of salt water. The brackish mud in the Taber & O'Neill test may forecast some salt water in that when it is completed.

The Taber & O'Neill test is 80 feet west and 480 feet south of Nichols' No. 2 Harris producing from the upper sand and the nearest producer. Wallace & Bowles' No. 1 Harris, 400 feet due west of Taber & O'Neill, tested 3 fourbles of oil in the upper sand at 4,109-18 feet and set casing and drilled in and is last reported running tubing. With the exception of an east offset to the Dirks Brothers' test location for which has been made by Titus & Calloway, the next most interesting proposition in the field is the outcome of the Taber & O'Neill test and the C.R.&M. and O'Neill's No. 1 Stoltzfus located about 1,000 feet northeast of the discovery well of the field and the first test to be located to the north and east. It got spudded in the past week. Trio Oil Co.'s No. 1 Harris, 660 feet west of Nichols' No. 2 Harris, got the upper sand at 4,102-12 feet and is testing.

Laurel Field in Webb

The first producers in the new Laurel Pool in Webb County, 3 or 4 miles southwest of the Carolina-Texas Pool, were rated at around 100 to 200 bbls. at an average of 2,240 feet. There is a group of six of them in Survey 271. South Texas Oil Co. moved across the line into Block 10, Survey 270 and the first well came in for about 1,000 bbls. The second test in Survey 270, located about two locations south of the first, came in for about 200 bbls. and now the third on that side located 330 feet east of the other two, and half way between them has come in for another 1,000 bbls.

Hamill & Hamill and Wolcott's No. 1 Sarah Lloyd, a half mile north of the first wells and slightly east got 4 feet of well-saturated core but was thought not to have enough sand but thought also to indicate that the field will take a northeast and southwest trend. On this theory the industry is watching the Sal-Mar Oil Co.'s No. 1 Vela 660 feet from the northwest lines of Survey 1011 and about 3 miles due northeast of the Laurel Pool. Maps show two dry holes between but one went to 2,203 feet and the other to 1,333 feet and hence were not deep enough to pick up the sand in the Laurel Field.

No. 2 Laurel in Survey 270 was completed in sand at 2,254-64 feet and No. 3 Laurel in Survey 270 which came in for 1,000 bbls. was completed at a total depth of 2,269 feet.

Dyck Oil Co. is starting a test a half mile south of the field which will help materially in defining it. It is 170 feet from the north and 150 feet from the east lines of the northeast of the northwest of Survey 1,100 and is rigged up.

Saxet Field in Nueces County

With the exception of the Houston Oil Co.'s No. 1 Walton which went to 5,005 feet without getting production at around 4,867 feet and is now plugging back to 4,100 feet, the main interest in the Saxet Field has been tests progressing by making more hole but disclosing nothing of importance.

Houston Oil Co.'s No. 1 Walton is a couple or three locations west and one south of the Oso Drillers' No. 3 Roark which is one of two tests producing in sand at below 4,800 feet. No. 3 Roark is a big gas well making about 30 bbls. of high gravity oil. The other test in that horizon is 3 miles west and producing at 4,886 feet, a big gas well.

No 3 Roark was stopped in the top of the sand. No. 1 Roark two locations east of it made a big showing in sand in that horizon, on drill stem test, but could not be completed. This still leaves that horizon, the deepest in the field, very much unproven.

Several tests are waiting completion in this field. They allow 10 days for cement to set in the coast country which delays completions. Gibson Oil Co. has one test in the sand at around 4,550 feet, and Titus & Calloway have two in that sand which promise to be the next completions.

Wildcat Operations

F. A. Lain's No. 1 Vernon Porter, in the northeast part of Jim Wells County, reached contract depth at 3,502 feet and was standing for a week but is now being drilled deeper. It got the marine oligence high and found three sands one of them carrying considerable gas, one of them salt water and one of them a little oil but not enough for a well.

Some new wildcats are starting in the territory north and northeast of the North Government Wells Field in Duval and extending on up into McMullen County. Newton Oil Co. of Laredo made a location on the Welder-Woods ranch in Survey 102, Al Buchanan a location in Survey 117, 10 miles northeast of the North Government Wells Pool and within a mile of the south line of McMullen County.

L. W. Capps made location in McMullen County about a mile north of the south county line and 4 miles west of Buchanan and due north of the North Government Wells Pool.

Howeth & O'Neill made a location in Section 30 of the Beatty, Seale & Forwood Survey, 9 miles north and 3 miles east of Buchanan. A few miles north of

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Wildcat Operations in Southwest Texas

Week Ending December 3

Company, farm and location—	Remarks:
ARANSAS COUNTY	
F. E. Kestler's No. 1 McCampbell, 150 ft. from N and E lines of Lot 1, Blk. 58, McCampbell ranch	Spudded in.
ATASCOSA COUNTY	
American Central Oil Co.'s No. 2 Mary McConnell, 150 ft. W of E line, 300 ft. S of No. 1 Blk. 138, W. C. M. Baker Sur., 3 miles W and 6 miles S from Somerset	T.D. 1,660 ft.; rig moved off.
BANDERA COUNTY	
F. A. Brown's No. 1 R. B. Watson, 600 ft. N of cen. of S line of Sec. 71	T.D. 400 ft.; setting 10-in. csg.
E. A. Parkford's No. 1 Duke, 200 ft. from S line, 150 ft. from W line of Sec. 7, G.C.&S.F. Sur.	Location.
BASTROP COUNTY	
J. E. Emanuel's No. 1 H. Klemm, 817 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	Rigged up and standing.
Liberty Oil Co.'s No. 1 Lizzie Davis, 1,300 ft. to NW lines, 450 ft. to SW lines of 50-ac. tract in Geo. A. Stovall Sur.	T.D. 400 ft.; drlg.
Marts & Beavens' No. 1 Smith, 7,450 ft. to NW lines, 1,350 ft. to SW lines of J. Burleson Sur.	T.D. 1,975 ft.; drlg.
Ogden & Reed's No. 1 Miers, beginning at the intersection of the C. L. Riddle and W. M. and Viola Riddle tracts, thence W 300 ft., thence S at right angles 150 ft. in W. H. Leech Sur.	Location.
Properties Trading Co.'s No. 1 Henry Freitag, 400 ft. from SE line, 1,800 ft. from NE line of P. Conley Sur.	T.D. 2,118 ft.; showing oil, testing.
Nelson Pruitt's No. 1 C. Lentz, 330 ft. from NE line, 2,050 ft. from SE line of 400-ac. tract in J. B. Lentz Sur.	Location.
H. Robertson's No. 1 Schmidt, 25 ft. from N line, 850 ft. from W line of D. H. Dyer Sur.	T.D. 80 ft.; spudded in and S.D.
Teas and Gant's No. 1 Mikulec, 330 ft. to NW and SW lines of tract in Wm. Barton Sur.	Derrick.
Wilson & Edwards' No. 1 Randall, 150 ft. from S and E lines of tract in Bernard Bymer Sur.	T.D. 2,560 ft.; temp. abnd.

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Southwestern Indiana Now Attracting Attention; Some Fair Wells in Owensboro Field, Ky.

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Dec. 5.—In the Kentucky area in the Owensboro Field, some fair shallow sand wells were found. Central Ohio is lagging, especially in completing wells that are under way. Indiana and Illinois completions are at a low ebb.

In the old Lima Field of northwestern Ohio no new wells were brought in, although a number under way are shut down due to cold weather. In Allen County the Ohio Oil Co. is drilling No. 8 on the George W. Tabler farm, Section 9, Perry Township, and unknown parties are drilling on the Valentine Scherer farm, Section 35, Spencer Township, same county. In Auglaize County, N. E. Masters and others are drilling No. 2 on the George Rable farm, Section 11, Noble Township. In Douchouquet Township, same county, C. Wintzer is drilling a well on his own farm, Section 23, while Adrian Tester and others have a rig in for No. 4 on the Harry J. Hanold farm, in Nouton Township, same county. In Sandusky County W. G. Montgomery and others are drilling on the Noah Hetrick farm, Section 30, Rice Township, and M. Wagner and others are drilling on the M. Wagner farm, Section 36, Washington Township. Seneca County has four wells under way, but no completions. Five wells are drilling in Wyandot County which is now the best looking development in the old field, and with early spring, according to reports will show much more activity.

Graver Canwell is shut down at 1,200 feet on the Allen B. Rouston farm, Section 13, Pleasants Township, Hardin County. Simms Oil & Gas Co. is drilling around 500 feet on the L. A. Cook farm, in Lot 9,975, in Rush Creek Township, Logan County. W. J. Gettmand and others are drilling around 500 feet in a second test on the Frances A. Crum farm, Section 12, Hopewell Township, Seneca County. Gimbill, Burton and Kuens are spudding on the Ward W. Walton farm, Section 21, Crane Township, Wyandot County.

CENTRAL OHIO

Only four completions were made in the active Central Ohio Field, the outstanding well completed being Murphy and others' test on the Ward Little farm, Section 17, Perry Township, Coshocton County. This well came in as a gas well, but was given a shot and for the first 24 hours put 128 bbls. of oil in tankage from 2,906 to 3,046 feet. Hulse, Kuntz, Inc., is reported drilling at 2,981 feet on the Rolla McKee farm, same section.

In Ashland County, Meltzer and others' No. 6, on the Clark Alber and others' farm, Section 34, Mohican Township, produced 20 bbls. in 96 hours, or 5 bbls. in 24 hours from the Berea sand from 761 to 791 feet. Hulse and others are drilling on the E. A. Cable farm, Section 15, Lake Township, same county.

In Lorain County, McMillan and others have a rig up for a second test on the Frank Kovarik farm, Lot 95, Eaton Township.

In Fairfield County, the City National Gas Works drilled in No. 2 on the Charles Fauble farm, Section 34, Berne Township, in the Berea sand from 533 to 542 feet, where it filled with water and goes as a dry hole. The same company drilled in a gas well in No. 3 on the William Hartman farm, Section 26, Pleasants Township, same county, at 2,287 feet.

In Tuscarawas County, the Hopewell Oil & Gas Co. made a location on the E. Hursey and others' farm, in Lot 29, Washington Township.

In Stark County Sisler and others have a rig up for No. 5 on the Eva M. Sisler farm, Section 21, Jackson Township.

In Belmont County, M. J. Purdy and others have abandoned their location on the Rosalia Johnson farm, in Section 27, Somerset Township, and have a rig in for No. 1 on the Ira and O. R. Clift farm, Section 29, same township.

In Meigs County, E. E. Martin and others' test on the J. G. Miller farm, Section 3, Chester Township, has been abandoned as a dry hole in the Berea sand from 1,903-10, total depth of hole, 2,023 feet.

INDIANA

Southwestern Indiana is attracting more attention than any other section of the state and while the wells are not large producers they are commercial to a large extent. What is going to help that part of the state is the laying of a pipe line by the Producers Pipe Line Corp. of Owensboro, Ky., the line running from the late development in Vanderburg County, to the C.&E.I. yards at Evansville, providing a new outlet for that field which is in Center Township. Formerly the oil was marketed by trucks and sold mostly to Evansville firms.

In the new field in Center Township, Vanderburg County, McNair and others' No. 2, 200 feet from the north line and 450 feet from the east line of the George Hornsby farm, NW Section 33, Center Township, produced 40 bbls. initial from a depth of 895 to 910 feet. Jess Young and others' No. 1 well, in the southwest corner of the Fred Kruger farm, in the SW Section 28, same township, produced 20 bbls. from 896 to 912 feet. R. J. Rendall and others' No. 3 well, in the northwest corner of the Theodore Kinder farm, NW Section 33, same township, produced 15 bbls. from 895 to 910 feet.

In Pike County, Washington Township, H. H. Risher's test 300 feet from the south line and 1,000 feet from the west line of the M. Miley farm, in the NE Section 18, is credited with a gas

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Marked Activity in South Turner Valley Field; Testing Potential Extensions to South End

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Dec. 3.—Official figures issued by the Department of Lands and Mines for Alberta show that the Alberta oil production for October totaled 66,841 bbls., comparing with a total of 67,247 bbls. in September.

Turner Valley naphtha production in October amounted to 62,031 bbls., while light crude production from the same field amounted to 1,755 bbls. The Red Coulee Field produced 2,374 bbls. of light crude and the Wainwright Field 681 bbls. of heavy crude.

The only decline in comparison with the previous month was in the Wainwright Field, which in September produced 1,540 bbls. Red Coulee showed a slight increase, and in Turner Valley, despite testing operations, there were small gains in both naphtha and light crude.

The government report states that of the Turner Valley production about 4.1 per cent was lost by evaporation and refinery deductions. The net production exceeded sales by 2,572 bbls., the excess going into storage, which at the end of the month approximated 14,000 bbls.

The report calls attention to the new deep test well being drilled by Frontier Developments, Ltd. in the Two Hills area south and east of Vegreville. This is about 11 miles south of the test made on the Duvernay structure, where an oil-bearing formation was encountered at about 1,300 to 1,400 feet and continued to about 2,000 feet.

Central Turner Valley

In the Central Turner Valley Field, McLeod Oil Co.'s No. 4 deep test, LSD 16, Section 1-20-3w5, has been held up by drilling difficulties. Uncertainty continues as to the exact formation in which the drill is working, some reports placing it in the Colorado. The difficulties appear to have been pretty well overcome, and the test is once more making headway below 7,755 feet. North of this test, Bow Oils' No. 1, LSD 14, Section 12-20-3w5, is fishing for some 144 feet of drill pipe at the bottom of the hole which is in the lime at 3,889 feet.

North Turner Valley

In the North Turner Valley, Model Oils' No. 2, LSD 16, Section 22-20-3w5, is redrilling below 3,820 feet, about 130 feet off the old bottom, and making somewhat better headway. United Oils' No. 2, LSD 2, Section 24-20-3w5, is redrilling below 5,295 feet to recover light crude production previously encountered in the Dalhousie sand around 5,385 feet.

South Turner Valley

There are signs of marked activity in South Turner Valley, where a considerable share of the new drilling will test potential extensions. Most of the testing is in the "far south" area of Township 18. There Merland Oil Co.'s No. 1 in Section 27 is a good producer; and operators are hopeful of duplicating its results and extending the proven area.

The new "farthest south" test is the Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5. This location is about a mile south of Merland's No. 1 producer, and a similar distance from Mar-Jon-Freehold's No. 1, which recently got the deep lime but has not yet tested the producing horizon. Union Drilling Co., which has secured both LSDs 7 and 8, has its test spotted on the northeast corner of LSD 8. Union Drilling Co. has heretofore limited its activity to contract work, the new test in Section 21 representing its first entry into the production field. The company has handled the drilling of Mar-Jon-Freehold's No. 1. Its work is under the management of William Maughan and George Muir, both of whom have had extensive experience in Turner Valley and other Alberta fields.

More than a mile north of this new location, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, after getting into the Madison around 5,420 feet, developed a difficult fishing job. Sidetracking has been carried to a stage where the tools have got away from the old hole and are working around 5,350 feet, about 70 feet off the lime. It is planned to drill about 10 or 15 feet into the lime and cement casing before testing the porous horizon.

On the next section to the north and east, Anaconda Oil Co.'s No. 2, LSD 15, Section 28-18-2w5, is working on derrick and hauling drilling equipment from the Wellington Oil & Gas Co. lease in the Home section of the south field. Anaconda's No. 2, financed by W. Fay Becker and associates of Calgary, will test light crude production in the Dalhousie horizon, and should spud in early in December.

Farther north in Township 18, Livingston Syndicate's No. 1, LSD 5, Section 34-18-2w5, is reported preparing to resume work early in the new year at 2,160 feet. The test was started a couple of years ago by William Livingston and associates. Having been started before the Alberta government imposed its ban on new drilling to the deep lime, Livingston Syndicate's No. 1 can be drilled to the crude naphtha horizon in the Madison. The test has already been carried to 2,160 feet with cable tools but has been inactive for about a year. It is on acreage subleased from the Anaconda Oil Co. and is about a half mile north of Merland's No. 1 producer. Another test that may resume work in the far south is Rand Petroleum's No. 1 in LSD 5, Section 34-18-2w5. This test, taken over last year by A. H. Mayland of Calgary, was drilled to about 300 feet, and has since been standing at this depth.

In the older section, only one test is active, Associated Royalties' No. 1 (formerly Spray Oils' No. 1) in LSD 9, Section 5-19-2w5. The outfit which recently started running double tour, is reported drilling below 3,175 feet and getting close to the potential light crude horizon in the McDougall-Segur sands. A show of crude oil was encountered at the Dakota contact and crude colors are being obtained right along. The rig has been closed in for winter drilling, and if the shallow

sand fails to yield commercial production, the test will be continued to the naphtha horizon in the lime.

Tests in the Foothills

On the Monarch structure, west of Olds, Cartier-Majestic's No. 1, LSD 5, Section 36-31-7w5, is reported drilling out cement below 1,135 feet.

On the Moose Mountain structure, Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is reported redrilling below 3,620 feet after using 25 sacks of cement to overcome caving. Location is about 25 miles west of Calgary and 18 miles northwest of Turner Valley, in the thrust-faulted section of the Bragg Creek district.

East of Turner Valley, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-29w4, is resuming at 5,618 feet after installing new bull wheel. At this depth the test is in the Colorado shale below the cardium sandstone and has met numerous small oil and gas shows.

Red Coulee Field

In the Alberta end of the Red Coulee Field, Vanalta Oils' No. 5, LSD 4, Section 4-1-16w4, 220 feet north of the Montana line, has been finished as a 30 to 35-bbl. pumper in the Vanalta sand around 2,400 feet.

On the Montana end, Askalta Oils' No. 8 Farbo, NE NW NE Section 2-37-4w, is unofficially reported drilling into production around 2,500 feet. The sand here appears to be a little lower than in the other Askalta producers, which got production around 2,478 to 2,481 feet.

In the Alberta section D. A. McDonald Syndicate's No. 1-A Kotop, Section 2-1-17w4, is unofficially reported drilling around 2,100 feet.

Cut Bank Field

In the Cut Bank Field on the Montana side, Alberta Pacific Consolidated Oils' No. 1, S half NW Section 14-34-6w, is reported drilling below 565 feet after cementing casing at 540. Alberta Pacific's second test, No. 1 Kiesel, Section 11-34-6w, has spudded in.

In the gas area The Texas Company's No. 1 Edris Fisher, S half Section 10-35-5w, is reported drilling in below 2,855 feet. This test at 2,546 feet encountered a gas flow, estimated 4,000,000 feet a day, which caught fire and damaged the derrick. Two other completions are in sight. Santa Rita Oil Co.'s No. 2 Yunck, NE SE Section 23-34-6w, is drilling into the main sand below 2,800 feet after drilling through a sand between 2,773 and 2,775 feet. Roy Tarrant's No. 1 Haglund, SE SW NW Section 13-34-6w, is drilling below 2,450 feet. Roy Tarrant's No. 1 Britton, NE NE SE Section 14-34-6w, is drilling considerably below 2,000 feet. Six other tests are drilling at lesser depths, including Lakota Montana Oil Co.'s No. 1 Drumheller, SW SE NE Section 3-34-6w, which recently spudded in.

An interesting new wildcat is W. M. Fulton's No. 1 in SE Section 16-34-6w, on the Blackfoot Indian Reserve. Mr. Fulton, who is associated with W. E. Rice and others in this test, expects to get the top of the sand from 50 to 75 feet lower than producers farther east. The location is 2 miles west of the nearest producer.

Keho Lake Test

In the Keho Lake district, northwest of Lethbridge, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, is reported pulling the smaller pipe preparatory to shooting the 40-bbl. oil show encountered in the Benton shale at 3,770 feet. The deeper show in the top of the Madison lime at 4,921 feet was shot after the well had been plugged back from 4,942 feet. The show in the Madison tested about one-half barrel an hour, and a shot of 10 quarts failed to improve it. Further drilling will probably be undertaken.

Wainwright Field

In the Wainwright Field, Beaumont Oils' No. 2-A, Section 30-45-7w4, is milling at 2,158 feet. It is planned to carry the test to the lower oil sand around 2,300 feet where a small commercial production of heavy crude has been met in other tests.

Two Hills Drilling

On the Two Hills structure east of Edmonton, Frontier Development's No. 1, LSD 2, Section 1-55-13w4, is making new hole below 300 feet after cementing off surface water.

Twin River Test

In southern Alberta, Nordon-Roney's No. 1, LSD 11, Section 2-2-20w4, on the Twin River structure southeast of Lethbridge, has been held up by bad weather. Drilling will be carried to the potential oil horizon in the top of the Madison, looked for around 3,900 feet.

New Drilling in Ontario

Important new drilling operations are being started by Vacuum Gas & Oil Co. of Toronto in Orford Township, Kent County, Ontario, where the company holds extensive leases. Contract for the drilling has been let to F. H. Stover & Son of Chatham, and a geologist is now examining the leases and locating No. 1 test. Orford Township is in the southeastern section of Kent County and is thought to have both oil and gas potentialities. The northern part of the township, south of the River Thames, is opposite Zone and Camden Townships, where shallow oil production has been found in the Thamesville and Bothwell Pools. The southern end of the township is on Lake Erie and in line with the Tilbury Field, farther east, and the Vienna and Richmond Fields in Elgin County to the east. West of Orford, in the Ridgetown section of Howard Township, surface or drift gas has been developed in commercial quantities.

No. 1 test will, it is understood, be a deep drilling venture, though it is expected to get conclusive results in some of the formations before the end of December. Any gas production developed will probably be marketed to the Southern Ontario Gas Co., whose main pipe line from the Glenwood section of the Tilbury Field crosses Orford Township.

The Vacuum Gas & Oil Co. already has some natural gas production in the Mabee's Corners area of Norfolk County. Until recently its operations were limited to handling the production already developed; but arrangements just made will enable the company to embark on an aggressive development campaign. It is expected drilling will be undertaken in some other areas of Ontario. The company was organized in 1915, and holds some 2,000 acres in the Tillsonburg, Halton and Kent producing areas.

Vacuum Gas & Oil Co.'s No. 1 wildcat test, in Orford Township, Kent County, has been spotted in Lot 53, North Talbot Road, and is rigging up. F. H. Stover & Son, of Chatham, have the contract. Gas production within about 1,700 feet is the objective.

Turner Valley Conferences

Conferences dealing with the Turner Valley gas conservation measures and the Alberta oil and gas regulations are being held at Calgary under direction of John Harvey, deputy minister of lands and mines.

A public inquiry was scheduled to be held at Calgary later for discussion of the conservation policy in connection with the Turner Valley Field. Final figures of the gas tests conducted by the Turner Valley Gas Conservation Board are to be submitted and the question of a voluntary pool for unit operation of the field is also listed for discussion.

Central West Field

(Continued from Preceding Page)

volume of 1,600,000 feet from 1,080-89 feet. A. B. Bement's test in the southeast corner of the Andrew Willis farm, NW Section 13, same township, was a dry hole at 1,237 feet.

Knox Engineering Co. is drilling on the Russell Farmer farm, Section 22, Columbia Township, Gibson County. Same company is drilling No. 2 on the Charles C. Steele farm, SE NE Section 22, also No. 1 on the S. W. Kirk farm, NW Section 22, and in Barton Township, same county, the same company is drilling on the G. C. Sampley farm, SW Section 8.

ILLINOIS

No completions were reported from the Illinois fields and very few wells are under way. Most of the drilling wells over the state are shut down and there is no telling when they will start up again.

In Wabash County, Wabash Township, F. L. Andrews and others abandoned No. 1 on the C. E. and J. H. Jordan farm, SW Section 3, also abandoned No. 1 on the J. H. Jordan farm, in the same quarter section. Same parties abandoned No. 1 on the Biehl heirs farm, NW Section 3, and Andrews is drilling No. 5 on the J. H. Jordan farm, same section. Miller and others are drilling No. 1 on the Jess Cicel farm, in the same section.

KENTUCKY

Fifteen completions were reported from the Owensboro Field of western Kentucky, of which eight were oil producers with an initial of 396 bbls., six dry holes and one gas well. The best of the producers brought in was the Owensboro Bank & Trust Co.'s second test on the William Ashton farm, in the Calhoun Field, of McLean County, which showed an initial of 200 bbls. In the same field William Collins' No. 1 on the Charles Martin farm, with a 15-bbl. initial, and H. A. Osborne and others' test on the Frank Bennett farm, same field, was a dry hole.

In Daviess County, Hupp, Duff and others' No. 7, 950 feet from the south line and 550 feet from the east line of the Asa Bratcher farm, in the Cane Run Pool, produced an initial of 70 bbls. at 730 feet. No. 4, 450 feet from the south line and 175 feet from the west line of the same farm, came in a dry hole at 720 feet. Eastern Gulf Oil Co.'s test, 150 feet from the north line and 500 feet from the east line of the Magan heirs farm, in the Jones Pool, produced 10 bbls. initial at a depth of 638 feet. Brenner and Adams' test, 200 feet from the south line and 600 feet from the east line of the Jake Alsip farm, in the Cane Run Pool, was a dry hole at 680 feet. D. J. White and others are drilling No. 1 on the Timmell farm, same county.

In Ohio County the Cumberland Petroleum Co.'s No. 12 on the Dave Brooks 340 acres, a mile west of Haynesville, produced 50 bbls. at a depth of 344 feet. H. A. Henry's No. 6 on the Nora Chambers farm, in the Haynesville Pool, produced 6 bbls. initial. H. L. Ogle and others' second test, 800 feet from the north line and 1,000 feet from the east line of the I. T. Westerfield farm, in the Maddox Pool, came in a dry hole at 715 feet. Mabel E. Daugherty and others found a dry hole in No. 2, 200 feet from the north line and 400 feet from the east line of the G. W. Burdette 214 acres, 2 miles south of the town of Herbert. Mecca Oil Co.'s No. 2 on the Baxter Taylor 60 acres, one-half mile south of Herbert, is a fair gas well, while No. 3 on the same farm produced 5 bbls. initial and No. 4, same farm, is drilling. H. A. Henry is drilling No. 7 on the Mary Chambers farm, in the Haynesville area. In the Maddox Pool, the Ohio Oil Co. is drilling No. 4 on the A. G. Pfister 102½ acres, and H. L. Ogle and others are drilling No. 2 on the J. J. Miller farm, same pool, while the Louisville Gas & Electric Co. is drilling No. 3 on the E. M. Royal farm, same pool.

In Hancock County, Hupp, Duff and others' No. 7 in the southeast corner of the Alex Jackson 103 acres, in the Richards Hill Pool, produced 20 bbls. initial, while T. J. Bartlett and others' test on the Frank Bickett farm, same pool, was a duster. Hupp, Duff and others are drilling No. 8 on the Alex Jackson farm. Bolling & White are drilling No. 3 on the Preston Matthews east 40 acres, same pool. T. J. Bartlett and others are starting No. 2 on the Frank Bickett farm, same area.

Oil production and income in the Owensboro Field of Kentucky continued to mount during the third quarter of 1932, compared with the corresponding period of 1931, with the result that the poor comparative showing of the early months of 1932 has been more than made up. The totals for the nine-month period this year are greater both in barrels of oil pumped and money received than for the first nine months of 1931, says the Messenger Inquirer.

During July, August and September of this year, the production of the six counties embraced in the field totaled 598,761 bbls. for which $627,498.28 was paid. In the corresponding three months of 1931 the production was but 352,968 bbls. and the income $221,066.72.

For the nine-month period, production this year has totaled 1,402,980 bbls. compared with 1,346,522 in 1931. Income this year has been $1,404,035.37 compared with $1,172,321.63 for 1931.

Production and income listed by counties for the third quarters of 1931 and 1932 follow:

Ohio County—1931, 352,968 bbls. sold for $221,066.72; 1932, 598,761 bbls. for $627,489.28.

Daviess County—1931, 107,827 bbls. sold for $68,139.57; 1932, 167,995 bbls. for $176,395.73.

Hancock County—1931, 9,587 bbls. sold for $6,082.36; 1932, 18,623 bbls. for $19,553.80.

Henderson County—1931, 12,095 bbls. for $7,490.24; 1932, 26,308 bbls. for $27,623.88.

McLean County—1931, 29,025 bbls. for $17,509.03; 1932, 45,559 bbls. for $47,836.65.

Muhlenberg County—1931, 3,402 bbls. for $1,550.16; 1932, 5,215 bbls. for $4,267.52.

For the first nine months of 1931 and 1932, the production and income of the counties embraced in the field follow:

Ohio County—1931, 976,971 bbls. sold for $768,798.02; 1932, 1,018,287 bbls. sold for $1,034,159.71.

Daviess County—1931, 437,973 bbls. sold for $358,307.08; 1932, 428,055 bbls. sold for $422,700.69.

Hancock County—1931, 43,566 bbls. sold for $34,618.94; 1932, 43,825 bbls. sold for $43,879.77.

Henderson County—1931, 37,908 bbls. sold for $26,086.75; 1932, 58,836 bbls. sold for $59,271.81.

McLean County—1931, 91,193 bbls. sold for $71,856.87; 1932, 106,127 bbls. sold for $106,636.91.

Muhlenberg County—1931, 20,848 bbls. sold for $13,425.33; 1932, 16,548 bbls. for $12,064.06.

La.-Ark. Fields

(Continued from Page 53)

Survey. This latter well has never been formally completed as either a gasser or a dry hole, although it has been supplying the town of Joaquin with fuel for some time. It tested 8,000,000 feet of gas from 3,864 feet and was experimented with in one way or another for quite some time, and still continued to produce a marketable quantity of gas. So it was hooked up and should be listed as a commercial well.

MISSISSIPPI

The biggest week's development in Mississippi has already been referred to the Modisette contract with Eastman-Gardner Lumber Co. Next to that in importance is Foster Creek Oil Co.'s plan for a well on Foster Creek Lumber Co.'s land in Section 12-2n-2w, Wilkinson County, for which it has derrick up. The interest is because the location is in a direct line of the Conroe-Jackson trend play in central Louisiana which extends across the river into Mississippi. There is as big a lease play going on in southern Mississippi as there is in central Louisiana, with the same amount of attempted secrecy attached to both.

Rankin County side of the Jackson gas district had one completion, James Alexander's No. 2 Hurst, Section 7-5-1e, gauging 50,000,000 feet of gas at 2,408 feet, and a new location, J. A. Baker and others' No. 2 Rankin Side Development Co., Section 6-5-2e, a wildcat which began drilling November 29. In the same territory, United Gas Public Service Co. is rigging up to drill No. 1 Ed Fondren in the NW SE, Section 24-6-1e.

California Operators Again Warned by Umpire; Gasoline Quotations Reported Easing Off

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Dec. 3.—Very little progress was made during the past week in strengthening the curtailment program and consequently state production of crude oil continued to be well in excess of the established allowable of 440,000 bbls. per day. Importation of Texas gasoline into the Pacific Northwest has resulted in price reductions of both the regular grade and third structure there. Quotations in California appear to be easing off despite frantic attempts to maintain an equilibrium, and the possibility of preventing price disturbances during the winter is not too bright. If the refined oil structure breaks, crude prices will undoubtedly reflect a sympathetic weakening. This is particularly true if the reductions become general and because of a strong possibility fuel oil prices are expected to slip within a few weeks when the demand for this commodity is at its peak. Gas oil and Diesel, however, are expected to reach a slightly higher level. Refiners and marketers have been of the opinion present prices could be maintained throughout the winter if crude production is immediately reduced to the allowable.

Umpire's Warning

J. R. Pemberton, California oil umpire, has warned producers several times they are jeopardizing the stability of the industry on the Pacific Coast by failure to meet curtailment. Umpire Pemberton has again written producers that "you will recall that the Executive Committee for Equitable Curtailment, after a careful study of market requirements and purchaser capacity, specified a maximum production of 440,000 bbls. per day for the last quarter of 1932. I want to call your attention to the fact that the average daily production of crude oil for October and to date during November exceeded 468,000 bbls. daily. In view of this overproduction it seems scarcely necessary for me to suggest that with a continued excess of at least 7 per cent over requirements something like an economical miracle will be necessary to sustain the market that is being weakened by every barrel of unwarranted production.

"You have doubtless read in the public press some of the disparaging remarks that have been made regarding California's unbalanced petroleum structure, as compared with the steadily improved conditions in other parts of the United States. I regret to say that it appears that these unfavorable comments are merited. This office will shortly present in more detail the sources of the state's excess and it seems to me that there are a few producers in the state who are so regardless of the good opinion of their fellow operators as to wish to consistently appear as taking advantage of the sacrifices being made by their associates in the industry. The allotments specified in the proration schedules for December should be honestly observed by every operator unless there is a most cogent reason for violation of the co-operative efforts of the industry. If there is such a reason it should be made public or communicated to the umpire. Otherwise, the industry and the general public cannot but assume that your excess production constitutes a deliberate disregard of present day ethics."

No Change in Allowable

No change was made in the allowable daily production of the state in the schedule issued by Umpire Pemberton for December as the Economic Committee had previously recommended a maximum allowable of 440,000 bbls. per day. Only three changes were made in field allotments by Umpire Pemberton. These involved a reduction of 50 bbls. per day in the allowable of Fruitvale and Kern River and an increase of 100 bbls. per day in the field allowable of McKittrick. The potential production of the state was increased 300 bbls. per day on December 1, raising California's potential daily production from 1,016,400 bbls. to 1,016,700 bbls. Fields of the San Joaquin Valley showed an increased potential of 3,400 bbls., fields of the Coastal district a reduction of 1,450 bbls. and Los Angeles Basin fields a reduction of 1,650 bbls. per day. Kettleman Hills showed the greatest change during the month, as the potential daily production was increased from 260,000 bbls. to 267,000 bbls., a gain of 7,000 bbls. per day. Other major changes in the potential of San Joaquin Valley fields included a reduction of 555 bbls. at Belridge and reductions at Fruitvale and Midway-Sunset of 1,425 bbls. and 760 bbls. per day respectively. In the Coastal district the potential of Elwood was cut from 23,350 bbls. per day to 22,560 bbls., and Ventura Avenue from 80,600 bbls. to 79,800 bbls. There were a number of minor changes made in the potential daily production of Los Angeles Basin fields, although no change was made in the daily allowable of any district. Decreased potentials were recorded at Dominguez, with a reduction of 435 bbls. per day, Long Beach will 895 bbls., Playa Del Rey with 285 bbls. and Santa Fe Springs with 1,025 bbls. daily. Increased potentials were recorded at Huntington Beach with a gain of 750 bbls. per day and Seal Beach with 840 bbls. per day. Several other minor changes were made in the potential daily production of other fields throughout the state, but with the exception of the changes just enumerated, the increases or decreases were of a minor character.

Completions in California during the week were a little more numerous, although none of the wells registered substantial production. The best well was Standard Oil Co.'s No. 111 Murphy Coyote in the West Coyte Field, which registered an initial daily production of 1,635 bbls. of 31.5 gravity oil cutting 3 per cent. This new well, bottomed at 6,287 feet but plugged back to 6,037 feet, is flowing through a forty-eight-sixty-fourths inch bean under a pressure of 1,050 pounds and is producing 1,077,000 feet of natural gas in addition to the oil. The crew from this well was transferred to No. 52 Emery in the same field and the latter project has already reached 1,391 feet. The Standard has one other well under way in the West Coyote Field, but this project, No. 112 Murphy Coyote, still has several hundred feet to make before completion.

Dominguez

Shell Oil Co. recompleted No. 1 Hellman in the Dominguez Field of Los Angeles Basin early in the week and this well, plugged back from 6,075 feet to 5,535 feet, was brought in flowing 386 bbls. of relatively clean 24.3 gravity oil per day. The Union has two wells under way in this field, No. 19 Hellman being a recent spud and No. 21 Hellman rigging up to deepen. The Republic Petroleum is expected to abandon No. 1 Childs in the Dominguez Field as its attempts to develop clean production have not met with any success. No. 1 Childs was carried to 6,094 feet but has been plugged back by stages and the casing perforated on the way out as each production test is started. Of the three projected deep zone tests started in the Inglewood Field several months ago, only one remains on the active drilling list. This is Baldwin Oil Co.'s No. 9, which is being given a production test at 5,740 feet, with the possibility of developing commercial production rather dubious.

Long Beach

Two new wells were added in the Long Beach Field of Los Angeles Basin; neither, however, resulted in a natural flow. The Hancock Oil Co. started off by recompleting No. 6 Signal pumping 271 bbls. of 27.5 gravity oil cutting 8 per cent. This project, bottomed at 8,217 feet, was redrilled to 5,036 feet and finished in the Brenneke zone. The crew has been transferred to No. 28 Signal, a new well, which is expected to begin making hole within 10 days. R. R. Bush Oil Co. recompleted No. 4 Bess pumping 158 bbls. of relatively clean 27.4 gravity oil per day from 4,149 feet. Dabney-Johnston Oil Corp.'s No. 87, finished in the Long Beach Field last week flowing 928 bbls. per day from 5,219 feet, has settled at 718 bbls. and will probably continue at this rate for another week or so. Gieke Oil Corp. is building rig for a new well to be drilled in the Frogpond area of the Long Beach Field, which, during the past several weeks, has shown more activity than any other section of the field.

Lost Hills-Belridge

The Continental Oil Co. put No. 3 Result, in the North Belridge Field of Kern County, on a preliminary production test early in the week, and while it showed an initial of 342 bbls. of 39.1 gravity oil per day from 5,165 feet, it will be killed to take in the entire zone in the hope of stimulating production. The Ohio Oil Co. has been getting some excellent looking acetone cuts in No. 1 Bloemer at 7,710 feet and this well, which failed to develop commercial production in either the Temblor or upper productive zones in the North Belridge Field, may possibly pick up commercial production below the Temblor. There does not seem to be a sufficient amount of natural gas to justify an immediate production test. The Belridge Oil Co. has not yet succeeded in recovering the fish in No. 27-51 in the North Belridge Field and it begins to look as though it will be delayed for several weeks. Interest in the North Belridge Field was increased when the Belridge Oil Co.'s No. 35-20 almost got beyond control while the crew was coming out of the hole at 2,900 feet. The Associated is expected to spud in No. 1 Williamson, a joint project being drilled in conjunction with the Richfield Oil Co. in the Lost Hills Field of Kern County, during the next 10 days. This deep test is expected to determine the possibilities in the northern or western end of the Lost Hills Field, and the outcome of work will consequently be of extreme importance.

Kettleman Hills

No. 3 Felix of the Petroleum Securities, in the Kettleman North Dome Field, finished about 10 days ago flowing 2,243 bbls. of relatively clean 37.2 oil per day, subsequently built up to 10,880 bbls. per day before being beaned back in conformity with the curtailment program. This is the best well to be finished on the Felix property. The North Kettleman Oil & Gas Co. has reached 9,775 feet in No. 1 Lillis-Welsh, the most westerly well in the North Dome, and while the formation at this point gives a faint odor and a fair acetone cut, the showings are not considered sufficiently encouraging to justify a production test. The Union Oil Co. is putting the finishing touches on a new rig being built preparatory to the drilling of No. 3 King in the North Dome and is expected to begin making hole within 15 days. The Superior has staked location for No. 5 Huffman, and material is expected on ground during the week. The Standard is washing over a string of 7-inch in its Middle Dome test, No. 6-29-V, at 6,815

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Nov. 19		Nov. 12			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	116,812	.....
Diesel and gas oil	188,498	26,928	77,125	11,018	1,133,749	1,566,803
Gasoline	149,196	21,314	117,418	16,774	7,140,951	12,911,301
Kerosene	.....	.....	.....	.....	177,962	187,934
Foreign exports—						
Crude oil	76,006	10,858	39,730	5,676	7,239,603	6,595,014
Fuel oil	158,756	22,679	167,010	23,859	7,212,218	12,007,359
Diesel and gas oil	88,962	12,709	70,666	10,095	2,337,473	3,195,254
Gasoline	138,486	19,784	360,348	51,478	7,385,743	7,575,568
Kerosene	66,475	9,482	25,894	3,699	2,634,679	1,640,522
Lubricants	.....	.....	.....	.. ..	.....	36,353
Naphtha distillates	.....	.....	.....	.....	120,075	.....
Coastwise-domestic—						
Crude oil	143,074	20,439	141,686	20,241	12,593,060	19,412,890
Fuel oil	144,308	20,615	396,561	56,652	10,697,668	12,127,128
Diesel and gas oil	40,234	5,748	9,404	1,343	1,195,737	1,362,655
Gasoline	221,484	31,641	327,932	46,847	13,420,019	13,140,959
Kerosene	7,056	1,008	.....	.....	149,786	300,776
Naphtha distillates	.....	.....	.....	.....	.....	4,952

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	650,980	.....
Gasoline	.....	.....	158,598	22,657	1,070,406	1,036,094
Kerosene	79,780	11,397	.....	.. ..	232,391	.....
Lubricants	.....	.....	.....	.....	31,804	38,236
Foreign exports—						
Crude oil	.....	.....	.....	.....	889,922	494,511
Fuel oil	.....	.....	.....	.....	904,079	1,589,858
Diesel and gas oil	2,327	332	79,135	11,305	689,469	535,660
Gasoline	56,652	8,093	21,652	3,093	3,521,303	4,250,476
Kerosene	.....	.....	11,368	1,624	966,995	802,322
Lubricants	.....	.....	.....	.....	30,094	25,693
Coastwise-domestic—						
Fuel oil	93,707	13,387	64,310	9,187	2,713,797	3,185,796
Diesel and gas oil	.....	.....	.....	.....	330,118	400,852
Gasoline	244,920	34,989	80,187	11,455	3,611,006	3,938,689
Kerosene	11,724	1,675	6,914	988	128,677	284,095
Naphtha distillates	.....	.....	.....	.....	.....	49,780

feet and while progress has been relatively slow, the company may possibly succeed in overcoming the fishing job.

Ventura Avenue

The Associated Oil Co. has just finished No. 131 Lloyd in the prolific Ventura Avenue Field, and, while no estimate is available, it should be good for at least 1,500 bbls. per day. This well was bottomed at 7,600 feet and finished with a 6⅝-inch perforated liner and an 8⅝-inch flow string, with a packer, landed at 6,977 feet. The Associated, with three other wells under way in the Ventura Avenue Field, is rigging up No. 132 Lloyd and is grading location for No. 133 on the same property. No. 15-A Barnard of the General Petroleum, scheduled for completion in the deep 57 zone by the Associated a year or so ago, has reached 4,276 feet but will not be eligible for completion until early in 1933 as it still has several thousand feet to go. The Shell is running one string of tools but is rigging up No. 75 Taylor, an additional project. In the Timber Canyon district, Superior Oil Co. is preparing to plug back and test upper showings in No. 3 West, bottomed at 6,854 feet. The Superior's deep test, in Section 13-4-21, has been devoid of any showings of importance since passing below the San Pedro Point Firmin zone.

Midway-Sunset

The Standard Oil Co. is conducting a bailing test on No. 1 Mascot, a deep test which the company has bottomed in the Midway-Sunset Field of Kern County at 9,760 feet, but the well has not made any substantial showing of either oil or gas. If the present production test is negative, it is believed the Standard will abandon it without making any additional footage. The Belmont-Midway Oil Co. is drilling out cement preparatory to making a production test on No. 1 Powell, an outpost in Section 22-32-23. In the Fruitvale district, the Kern Petroleum Co. has completed its No. 1 pumping 152 bbls. of 21.4 gravity oil cutting 20 per cent from 4,182 feet. Due to the rather high cut, it is not unlikely this well will be plugged back, although it is not certain the cut is due to bottom water. The Powell-Stockton Investment Co., which recently drilled a dry hole at Kettleman Hills, is rotating in No. 1 Baier, its Fruitvale well, at 3,850 feet and should be in a position to make a bid for production during the next two weeks. The Golden Bear Oil Co. and the Petroleum Securities should each add a new well in the Round Mountain Field of Kern County during the next 10 days.

San Miguelito

Continental Oil Co.'s No. 1 Grubb, the first well to develop substantial production and possibly the discovery well in the San Miguelito Field, has been holding up in excellent shape. During the week this well averaged 998 bbls. of relatively clean 30.4 gravity oil per day in addition to 660,000 feet of gas. The Continental has not started any additional development in this field since completion of No. 1 Grubb, having secured an extension of time with respect to drilling obligations. The first well to be finished in the San Miguelito Field was Chanslor-Canfield Midway Oil Co.'s No. 2-A Hobson, which, unlike No. 1 Grubb of the Continental, was a relatively small pumping well. Some doubt exists as to whether Chanslor-Canfield Midway Oil Co.'s initial completion was within the proven limits of the San Miguelito Field or whether it is an edge well in an intermediate field between San Miguelito and Rincon. The area in the San Miguelito district appears to be somewhat broken up and the importance of this field is undetermined. The Honolulu Consolidated is rotating in a sandy shale at 2,300 feet in No. 1 Valenzuela and while considerable difficulty has surrounded the drilling due to the changing of the original location and subsequent landslides, normal progress has been made. In the Rincon district, at the extreme western end of the Ventura anticline, the Indian Petroleum Corp. is drilling in its tideland project at 1,250 feet. This well is approximately 2,800 feet from the mainland and on an isolated steel island specially constructed by Robinson & Roberts of Los Angeles. In Section 4-3-24, Woodrow Oil Co.'s No. 1 Lomas is getting quite deep, although the outlook at 5,825 feet may still be considered favorable. In the Sulphur Mountain district, Wilshire Annex Oil Co. is drilling in a brown shale at 1,150 feet. The Sovereign Oil Co. is making a production test in No. 1 Leavens, a wildcat in the Fillmore district of Ventura County in Section 23-4-19. This well has been bottomed at 1,133 feet and an oil string carrying 468 feet of perforated landed on bottom and cemented through perforations at 591 feet. Many shallow wells are completed in Ventura County from time to time as the numerous small structures in this area in a great many cases yield small but commercial production. The only major fields in Ventura County are Ventura Avenue, Rincon, San Miguelito and South Mountain. In addition, there are a number of minor fields, among which are the Ojai, Santa Paula, Timber Canyon, Bardsdale, Sespe, Piru, Tapo and Simi Fields.

Rosecrans

The Barnsdall Oil Co. has recompleted No. 2 Trust in the Rosecrans Field of Los Angeles Basin flowing 188 bbls. of 32.5 gravity oil on a compressor from 6,848 feet. This well, believed to have proved a deep zone in the southern part of the Rosecrans Field, did not come up to expectations, as core samples reveal the existence of a rather promising oil sand. Additional development on top of the structure is expected to prove a productive horizon of major importance. The Union Oil Co. completed No. 3 Vidor in the Playa Del Rey Field of Los Angeles Basin within the past few days, and this project, bottomed at 5,920 feet and producing through open hole, showed an initial of 275 bbls. of 22.2 gravity oil per day. Rig construction has just been started by the Union for No. 5 Del Rey, an offset of No. 3 Vidor, which has just been completed. Lenard G. Roberts has started work on a new wildcat in the Linnwood-Bandini area of Los Angeles Basin and rig construction in Section 29-2-12 is expected to get under way within a few days.

OTTAWA GAS CHANGE

OTTAWA, Kans., Dec. 5.—The Ottawa municipal electric light and power plant for the first time is using gas produced in the new field just west of Ottawa. Recently the plant contracted with the recently organized Franklin County Gas Co. to buy gas from it.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S.	T.	R.	Depth	Status—
Standard, No. 1 Santa Rosa Island, Santa Barbara Co.	unsurveyed			5,180	gr. sd. drilling
Meganos Oil Co., No. 1 Lompoc, Santa Barbara Co.	28-	8-	34	....	material
Superior Oil Co., No. 10 Santa Maria, Santa Barbara Co.	19-	10-	33	814	abandoned
Superior Oil Co., No. 14 Santa Maria, Santa Barbara Co.	19-	10-	33	780	core hole
Superior Oil Co., No. 15 Santa Maria, Santa Barbara Co.	20-	10-	33	740	core hole
Equity Oil Co., No. 1 Coal Oil Point, Santa Barbara Co.	24-	4-	29	3,750	suspended
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	25-	4-	29	4,089	suspended
Oakburn Oil Co., No. 1 Capitan, Santa Barbara Co.	tideland			2,821	suspended
Casitas Oil Co., No. 1 Carpinteria, Santa Barbara Co.	tideland			2,834	br. sh. drilling
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-	10-	27	2,162	sd. sh. drilling
Woodrow Pet., No. 1 Rincon, Ventura Co.	4-	3-	24	5,853	br. sh. drilling
Indian Pet., No. 1 Rincon, Ventura Co.	tideland			1,193	sd. sh. drilling
Sovereign Oil Co., No. 1 Fillmore, Ventura Co.	23-	4-	19	1,133	cemented
Honolulu Consolidated, No. 1 Miguelito, Ventura Co.	23-	3-	24	2,387	sd. sh. drilling
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20-	4-	21	1,151	br. sh. drilling
Superior Oil Co., No. 1 Timber Canyon, Ventura Co.	13-	4-	21	6,850	hd. sh. drilling
Petro Producing Co., No. 1 Timber Canyon, Ventura Co.	18-	4-	20	2,323	br. sh. drilling
Hardison & Temple, No. 1 Santa Paula, Ventura Co.	22-	4-	21	219	suspended
International Oil Developers, No. 1 Conejo, Ventura Co.	33-	2-	20	2,237	hd. sh. drilling
Las Posas Pet. Co., No. 1 Las Posas, Ventura Co.	22-	3-	20	rig	suspended
Strobeck, G. L., No. 1 Ojai, Ventura Co.	34-	4-	23	298	suspended
Milham Exploration, No. 21 Buttonwillow, Kern Co.	6-	28-	23	1,071	sd. sh. drilling
Milham Exploration, No. 32 Buttonwillow, Kern Co.	1-	28-	22	....	location
Purman, T. H., No. 1 McKittrick, Kern Co.	22-	29-	21	5,060	br. sh. drilling
Welport Oil Co., No. 2 McKittrick, Kern Co.	19-	29-	21	821	gr. sd. drilling
Ozena Oil Co., No. 2 McKittrick, Kern Co.	27-	29-	31	3,031	plug 2,943 ft.
General Pet., No. 1 Belridge, Kern Co.	30-	28-	21	8,260	suspended
Cumberland Oil Co., No. 2 Devil's Den, Kern Co.	17-	26-	18	3,263	suspended
Halladay, A. S., No. 1 Devil's Den, Kern Co.	11-	25-	18	913	rigging up
Hanna, Tom, No. 1 Devil's Den, Kern Co.	35-	25-	18	3,516	cemented
Pyramid Hills Oil Co., No. 1 Devil's Den, Kern Co.	24-	25-	18	2,191	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-	26-	19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-	26-	20	mtl.	building rig
Milburn & Sherman, No. 1 Lost Hills, Kern Co.	29-	25-	21	....	location
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-	16-	23	2,970	suspended
Oliver, J. F., No. 1 Raisin City, Fresno Co.	20-	15-	18	rig	rigging up
Bergman, Harry, No. 1 Dos Palos, Fresno Co.	12-	12-	11	642	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, S. Luis Obispo Co.	3-	32-	22	3,701	br. sh. drilling
Emerich Oil Co., No. 1 Carrizo Plains, S. Luis Obispo Co.	22-	32-	22	1,841	suspended
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	26-	31-	12	3,352	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-	27-	11	4,191	suspended
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	1-	29-	12	1,650	suspended
Shell, No. 1 San Miguel, San Luis Obispo Co.	4-	25-	12	3,974	br. sh. drilling
Pacific Inland, well No. 1, Monterey Co.	19-	23-	15	2,441	suspended
Thomas Pet., No. 1 Parkfield, Monterey Co.	31-	22-	14	891	sd. sh. drilling
Western Gulf, No. 1 Watsonville, Monterey Co.	29-	12-	2	622	sd. drilling
Guess, E. B., No. 1 Corcoran, Kings Co.	7-	21-	21	6,197	suspended
Woodward, Glen, No. 1 Dudley Ridge, Kings Co.	32-	22-	20	775	suspended
Scott Bros. Drlg. Co., No. 1 Dudley Ridge, Kings Co.	18-	22-	19	1,843	suspended
Irma Investment Co., No. 2 Dudley Ridge, Kings Co.	7-	23-	20	1,224	suspended
Triune Oil Co., No. 1 Dudley Ridge, Kings Co.	5-	23-	20	1,098	suspended
Dudley Dome Oil Co., No. 1 Dudley Ridge, Kings Co.	9-	23-	20	2,201	sd. sh. drilling
Eagle Oil Co., No. 2 Dudley Ridge, Kings Co.	15-	23-	20	1,342	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-	23-	17	5,812	cleaning out
Kettleman Ridge Oil Co., No. 1 Avenal, Kings Co.	10-	23-	16	1,148	suspended
Magee & Stone, No. 1 Alpaugh, Kings Co.	34-	24-	22	5,060	suspended
Western Resource Corp., No. 3 Dudley Ridge, Kings Co.	12-	23-	22	1,840	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-	24-	27	2,200	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-	17-	24	2,092	suspended
Sheldon & Gholson, No. 1 Porterville, Tulare Co.	34-	22-	27	962	suspended
Hayman Oil Co., No. 1 Porterville, Tulare Co.	17-	23-	28	380	suspended
Ellis & Sanford, No. 1 Tulare Lake, Tulare Co.	20-	24-	23	1,490	suspended
Napa Oil Co., No. 1 Griffith, Napa Co.	7-	8-	3	3,244	sd. sh. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5-	2-	10	4,813	suspended
Hildebrandt, R., No. 1 Crows Landing, Stanislaus Co.	36-	6-	7	1,130	suspended
Rushing Oil Co., No. 1 Waterford, Stanislaus Co.	20-	3-	13	2,650	sd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-	12-	3	3,045	suspended
Los Banos Pet., No. 1 Los Banos, Merced Co.	26-	10-	9	rig	suspended
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-	16-	1	1,102	hd. sd. drilling
Tehama Pet. Co., well No. 1, Tehama Co.	4-	22-	15	512	hd. sd. drilling
Orland Synd., No. 1 Orland, Tehama Co.	31-	23-	3	3,388	sd. sh. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S.	T.	R.	Depth	Status—
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	8-	2-	15	7,414	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12-	2-	15	6,238	suspended
Co-operative Dev. Co., No. 1 Del Rey, Los Angeles Co.	26-	2-	15	6,493	sd. sh. drilling
Del Rey Hills Corp., No. 1 Del Rey, Los Angeles Co.	26-	2-	15	rig	suspended
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2-	2-	15	2,124	suspended
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20-	3-	14	6,378	suspended
Hogan, N. S., No. 1 Hawthorne, Los Angeles Co.	23-	3-	14	865	skid rig
Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co.	7-	2-	14	5,741	testing
Baldwin Hills Synd., No. 1 Inglewood, Los Angeles Co.	17-	2-	14	4,090	suspended
Kyle, W. A., No. 1 Inglewood, Los Angeles Co.	7-	2-	14	4,316	suspended
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28-	4-	13	rig	rigging up
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30-	2-	9	2,860	suspended
Jones, W. L., No. 1 Lynwood, Los Angeles Co.	31-	2-	12	4,480	suspended
Roberts, L. E., No. 1 Bell, Los Angeles Co.	29-	2-	12	....	material
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6-	2-	11	5,060	suspended
Hutcheson & Andrus, No. 1 El Monte, Los Angeles Co.	11-	1-	11	1,151	hd. sd. drilling
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24-	1-	13	3,919	suspended
Smith, J. H., No. 1 Hasley, Los Angeles Co	32-	5-	17	3,515	sidetracking
Ball, W. T., No. 1 Newhall, Los Angeles Co.	2[illegible]	3-	16	3,582	fishing
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6-	[illegible]-	16	1,598	resume work
Security Dev. Co., No. 1 Newhall, Los Angeles Co.	31-	5-	14	416	suspended
Ajax Pet., No. 1 Newport, Orange Co.	21-	6-	10	7,259	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29-	6-	10	1,970	suspended
Mineral Exploration, No. 1 Capistrano, Orange Co.	8-	8-	7	3,822	hd. sd. drilling
Orangethorpe Pet., No. 1 Brea, Orange Co.	32-	3-	10	4,560	suspended
Shallemiller, M., No. 1 Huntington, Orange Co.	35	-2-	11	2,000	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	25-	7-	10	3,590	suspended
Duncan, N. I., No. 1 Sagebrush, Riverside Co.	8-	4-	6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25-	1-	3	2,392	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18-	2-	8	312	hd. sd. drilling
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-	17-	15	680	suspended
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-	11-	16	774	suspended
San Felipe Oil Co., No. 1 Borega, San Diego Co.	25-	11-	8	494	suspended

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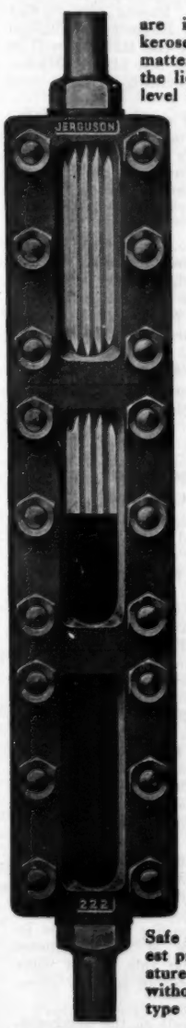

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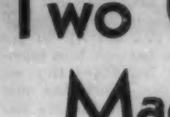
Two Outside Completions at Hobbs; Big Flow Made by Montana Well; Colorado Active

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Dec. 5.—Two good wells, both outside locations at the north end of the pool, were reported in the Hobbs Field, one by the Gypsy Oil Co. for 19,699 bbls. and the other by Amerada Petroleum Corp. for 15,034 bbls. One location was made. Two tentative locations were reported in Eddy County and one well in the Compton area is showing for a producer. In Colorado, leasing and royalty trading in the New Raymer-Buckingham district is heavy as the Ramsey well is being prepared for a test of the Dakota. Two deals require drilling to start next spring.



Four completions were reported in the Osage Field in Wyoming, the best being for 50 bbls. per day without being shot. Two new operations, one in Fremont County and the other in Carbon County, are getting under way. Elk Basin again is on production.

Ohio Oil Co.'s No. 7 Robinson, in the Dry Creek Field in Montana, made a sensational flow while being completed and put 200 bbls. in the tank in 30 minutes. One well is being completed and another is being started in the Cut Bank area and one small producer was completed in the Kevin-Sunburst Field.

Ohio Oil Co.'s wildcat in Washington is flowing 4,000 bbls. of hot water per day at 6,725 feet.

Oregon has a new test starting.

NEW MEXICO

Lea County

Two good completions, both outside wells, were reported in the Hobbs Pool the past week. The Gypsy Oil Co.'s No. 1 Hardin, SW cor. SE Section 18-18-38, was completed at a total depth of 4,221 feet and gauged 19,699 bbls. of oil and 13,056,000 feet of gas per day, open flow, and 6,804 bbls. and 3,975,000 feet through tubing. It topped the Terry at 4,071 feet and the pay at 4,098 feet. The Amerada Petroleum Corp.'s No. 2 Hardin, SE cor. SW Section 18-18-38, a west offset to the Gypsy well, was drilled to 4,152 feet and gauged 15,034 bbls. of oil and 11,750,000 feet of gas per day open flow and 6,480 bbls. and 6,500,000 feet through tubing. It topped the Terry at 4,058 feet. These two wells and the Amerada's No. 1 Hardin, SW cor. Section 18, and the Shell Petroleum Corp.'s No. 1 Lizzie Rice, SE cor. Section 13-18-37, form a tier of four wells running east and west at the extreme northern limits of the developed area. As these companies control the locations to the north of the completed wells, it is likely that this tier of wells will conclude the drilling in that direction for the present.

Another outside well on the northeastern side of the pool is being completed in the Repollo Oil Co.'s No. 2 Grimes, SW SE NW Section 28-18-38. It is bottomed at 4,223 feet and running tubing to test. It topped the Terry at 4,150 feet and the pay at 4,178 feet. It is two locations east of the Prairie Oil & Gas Co.'s No. 1 Grimes, completed two years ago.

One new location was reported in the Stanolind Oil & Gas Co.'s No. 26 Turner, C SE SW Section 34-18-38, which is digging cellar. It is an outside well just to the east of a producer and is in the Hobbs townsite.

Shell Petroleum Corp.'s No. 3-A McKinley, SE cor. Section 19-18-38, cemented the 9⅝-inch at 2,775 feet with 500 sacks and is standing. The Humble Oil & Refining Co.'s No. 2-B Bowers, SW NW SE Section 20-18-38, is bottomed at 1,580 feet in the red beds and cemented the 15½-inch at 225 feet with 250 sacks. The Getty Oil Co.'s No. 5 McKinley, NE cor. Section 30-18-38, is bottomed at 3,418 feet and is drilling out cement at 2,983 feet after plugging back. The Stanolind Oil & Gas Co.'s No. 11 Byers, C NE NW Section 3-19-38, is fishing for bit at a total depth of 4,003 feet, and its No. 11-X Turner, NE cor. SW Section 34-18-38, is drilling at 3,887 feet in lime. The Stanolind's No. 20 State, C SW NW Section 10-19-38, is standing at 4,007 feet after cementing the 8⅝-inch. It topped the white lime at 4,058 feet. Same company's No. 26 Thorpe, C SE NW Section 10-19-38, has completed cellar and pits, and its No. 11 State, C NE SE Section 4-19-38, spudded November 20 and is running the 16-inch at 211 feet. The Continental Oil Co.'s No. 7-A State, C SW NE Section 33-18-38, cemented the 15-inch at 237 feet in the red beds with 250 sacks. Tidal Oil Co.'s No. 4 Hardin, SW NE NE Section 19-18-38, is digging cellar.

In the Jal area, the Continental Oil Co.'s No. 1-B Sholes-13, C SW NW Section 13-25-36, is building rig.

In the Lea area, The Texas Company's No. 2-A Lynch, C SE SE Section 34-20-34, is bottomed at 783 feet in the red beds and underreaming the 10-inch at 772 feet, and its No. 1-B Lynch, C SW NW Section 34-20-34, is drilling in new hole at 775 feet after plugging back from 1,160 feet four times. New hole is running straight.

In the Lovington area, the Western Drilling Co.'s No. 1 State, NE cor. SE Section 13-17-36, is drilling at 4,725 feet in lime and anhydrite.

Eddy County

Two locations were made in Eddy County, both of which are tentative. C. H. Lockhart and others' No. 1 Hugh Burch, SW Section 7-17-30, in the Maljamar area, is contingent on adjoining leaseholders going in on the arrangement and Isaac Hanan and others' No. 1 State, NW Section 32-18-31, is south of the Jackson Pool and southeast of the Artesia Pool.

In the Compton area, southeast of the Artesia Field, W. A. Scott's No. 1 Kaiser, NW SE Section 7-18-27, is connecting up for a swabbing test. It showed a little water at a total depth of 1,771 feet and plugged back to 1,763 feet. It has made two heads and looks like a fair producer. The location is a mile to the southwest of the nearest producer and will mark an extension of the pool. Finley, Woods and Brainard's No. 5 Brainard, C NW SW Section 5-18-27, which is to the northwest of the producers, is shut down at 1,265 feet.

R. Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, west of Carlsbad, is drilling at 820 feet in lime and carrying 300 feet of water from horizon at 593 feet.

In the Artesia district, the Pecos Valley Gas Co.'s No. 7 Vandagriff, SE NW SE Section 5-17-28, is drilling at 250 feet in gypsum, and Flynn, Welch & Yates' No. 65 State, NE SE SE Section 30-18-28, is drilling at 240 feet in gypsum.

Chaves County

Warman Oil Trust's No. 1 Weldon & Hoar, NW cor. SE Section 9-14-25, Blackdom district, is bottomed at 193 feet and has pulled the 12½-inch to straightream and run the 10-inch to the bottom.

De Baca County

The Landowners Oil Co.'s No. 1 State, SW cor. NE Section 16-1s-27, Buffalo Creek, is fishing for underreamer lug at 5,240 feet.

San Juan County

The Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon district, is drilling at 3,980 feet in the top of the coal seam after going through a sandy shale with a show of oil and gas. The objective Point Lookout sand in the Mesa Verde is expected just below the coal.

Valencia County

Western Natural Resources Corp.'s No. 2 San Clement grant, SW cor. NE Section 5-6n-1e, is reported drilling below 3,015 feet.

COLORADO

Weld County

The production possibilities of the Ramsey Petroleum Co.'s No. 1 St. Anthony, SW NE SE Section 15-7n-59, in the New Raymer-Buckingham district, probably will be known within a short time. All the scouts and most of the oil company officials are at the well expecting it to come in at any time, but up to this writing no reports have been received in Denver. The well was killed several days ago and rotary bit was run to clean out bridges and caves. The 5⅛-inch casing was then run to the bottom, several feet in the Dakota sand, at 6,765 feet. The casing was perforated opposite the Muddy sand and 3 feet at the bottom. Bailing was started early this morning if the program was carried out. The well gauged 6,300,000 feet of gas per day when it came in in the Muddy sand at 6,686.5 to 6,710 feet. It topped the Dakota at 6,757 feet and showed oil saturation in that horizon. While bailing down to test, the well cleaned itself and flowed by heads. However, it soon began to cave and to heave bits of shale from between the Muddy and Dakota into the air and finally bridged so that it was making less than 100 bbls. of fluid, of which about 75 per cent was oil, per day. The well then was killed to clean out and run the smaller string. Before it bridged the gas had increased to 11,000,000 feet per day.

The importance attached to the discovery of oil in the Dakota sand is indicated by the activity in royalty and lease trading. Most of the leases held by some of the major companies carry options on the royalties. Requests for releases on royalties indicate the heaviest trading which has taken place at any time in northeastern Colorado. The base prices average from $10 to $20 per acre for the full 100 per cent of the 12½ per cent royalty interests. While there is considerable leasing taking place, few of these have yet been put on record. An offer of $14,000 bonus on a 160-acre tract less than a mile from the well was reported. W. R. Ramsey acquired the Frank Koutoc tract consisting of the SE Section 4-7n-59, 2 miles northwest of the discovery, but consideration was not named. It requires the starting of a well by June 1, 1933. Ramsey also secured 320 acres in the N half, Section 2-7n-59, nearly 2 miles to the north and a little east. Consideration is reported to have been $4,900 cash and $10,000 to come out of 12½ per cent of production. An unidentified party was reported to have acquired the NW of Section 1-7n-59 for $2,000 cash and 18¾ per cent overriding royalty. This lease requires the starting of a well by May 1, 1933. A number of other deals are pending, some of which involve large blocks. The water problem probably will hold back drilling during the winter as there is a shortage of water for rotary operations.

The Tulsa-Fort Morgan Petroleum Co.'s No. 1 Anthes, C NE NE Section 24-8n-59, 5 miles to the north of the Ramsey well, probably will be the next test in that area to reach the objective. It is bottomed at 3,318 feet and underreaming with cable tools. A deal for the installation of a rotary is being negotiated. This company has a water supply and the deepening of this well to the Dakota is expected to begin shortly. The only other active operation in that district is the Platte Valley Petroleum Co.'s No. 1 Wilson, C NE SE Section 24-6n-61, in the Greasewood area, which is going ahead slowly at 644 feet with cable tools.

Boulder County

Julius Williams' No. 1 Degge, NE SE SE Section 6-1n-71, Boulder Arch, is bottomed at 1,200 feet in the lower Foxhills with a show of oil and gas in the Terry sandstone and fishing for tools.

Routt County

The Texas Company's No. 1 Irwin-Carstarphen, NE SE NW Section 5-6n-86, Tow Creek, is drilling at 4,756 feet in shale.

Moffat County

The Mountain Fuel Supply Co.'s No. 1 Wilson, NE SW NE Section 22-12n-100, Hiawatha Dome, the discovery well for gas which came in in 1926, was deepened 15 feet to test the possibilities of oil showing in the hole. A 6⅝-inch liner was run to shut off cavings. The well is reported to have broken loose while work was in progress and when it was again shut in the ground was said to have shown a coating of oil. It is not believed, however, that there was any increase in the oil showing, although there was an increase of 1,000,000 feet in the flow of gas. The well will be continued on production as a gas well.

Rio Blanco County

The California Co.'s No. 1 California-Raven, NW SE Section 30-2n-102, Rangely Dome, is shut down at 6,575 feet for repairs to the Diesel engine. The Magnolia Petroleum Co.'s No. 1 Titley, NW cor. SW Section 15-2s-96, Piceance Creek, is preparing to drill into the gas sand topped at 2,953 feet after setting pipe.

WYOMING

Natrona County

Sidney H. Keoughan, head of the Mutual Oil Syndicate, which last spring took over the Midway-Geary operation from the Midwest Refining Co., the Salt Creek Producers Association and the Mountain Producers Corp., and drilled No. 2, C SW SE Section 14-35-79, has gone East to confer with his associates regarding the additional development of the Midway Dome. Another test is to be drilled, probably to the east or southeast of the discovery well. Two wells are now producing on the Midway Dome. No. 11 Middy, C NE NE Section 23-35-79, the discovery well, which was drilled by the Midwest and taken over by the Mutual syndicate, this week passed its first anniversary after going on steady production and is making an average of 110 bbls. per day from the second Frontier, or more than it was making a year ago. No. 2 is producing better than 100 bbls. per day from the Muddy. This well is 86 feet lower than No. 11 Middy, and

drilling has disclosed that the subsurface axis is not located the same as disclosed by the surface geology. With two producing horizons and the indications pointing to a much larger productive area than at first indicated, the structure is taking on added importance. Leslie Parker, who with Marion Wheeler, pioneered the structure and brought about its development, is optimistic in the belief that it is going to develop into an important light oil field.

The Empire State Oil Co.'s well in Poison Spider on the NE Section 12-33-83, is drilling at 365 feet. Peter Evanoff's No. 2, SW SE Section 3-39-79, west Salt Creek, is shut down at 1,920 feet for casing. The Summitt Oil Co.'s No. 1 Trewitt, NW cor. Section 21-33-80, North Platte, is drilling in hard rock at 1,823 feet.

Converse County

Continental Oil Co.'s No. 30 Glenrock Sheep, SW SE SE Section 4-33-76, Big Muddy, a test to the Sundance, is bottomed at 4,716 feet in sand and has recovered lost tools. It is repairing boiler preliminary to resuming. Ohio Oil Co.'s No. 25 Kinney, SE SW SE Section 4-33-76, is swabbing 60 bbls. per day from the Lakota and will be put on the pump. Its No. 26 Kinney, same location, is swabbing a little oil from a stray sand at a total depth of 2,110 feet. The Converse Oil & Gas Co.'s No. 1 Carlson, C SW SW Section 27-33-73, Alkali Creek, is temporarily shut down at 2,320 feet while R. J. Dilger and associates drill a test on the Poison Lake structure, 18 miles southwest of Douglas, in their No. 1, Section 32-31-72, which is spudding with a National machine.

Platte County

T. R. Oberman's No. 1 Diamond ranch, NW SE Section 30-21-68, west of Chugwater, is straightening crooked hole at 170 feet.

Weston County

Four completions were reported in the Osage Field. The best of these was the Chadron-Osage Oil Co.'s No. 18, NW SW SW Section 14-46-64, which is making 50 bbls. per day on the pump without being shot from sand at 2,035-46 feet. The Yellowstone Petroleum Co.'s No. 3 McCullough, SW NW NE Section 23-46-64, found the sand at 1,761-80 feet and swabbed 35 bbls. before shooting. It will be shot. The M.S.&W. Co.'s No. 13, SW SE NW Section 30-46-63, tested 6 bbls. from sand at 1,402-46 feet before being shot and will make a small pumper after a shot. The Duluth-Wyoming Oil Co.'s No. 2, CSL SE SW Section 12-46-64, is rated at 2 bbls. after a shot. The sand was found at 1,404-24 feet.

The Lincoln Oil Syndicate's No. 1, SW cor. SE Section 10-46-64, is waiting after cementing the 8¼-inch, and the Riggs Oil Co.'s No. 2, CEL SE NE Section 14-46-64, is drilling below 3,175 feet and feeling for the sand. The Paymac Oil Corp.'s No. 1 Toyne, SE NW NE Section 3-46-64, was deepened to 1,540 feet. As the Greenhorn was logged at 390 feet, it is evidently below the Muddy.

The Gose Oil Syndicate's No. 1, NE cor. Section 28-47-63, Soda Creek, is bottomed at 5,050 feet and rebuilding derrick preliminary to underreaming and lowering the 6¼-inch to bottom.

Julius Peters and others' No. 1 Witzell, SE cor. NW Section 30-46-64, Fiddler Creek, southwest of the Osage Pool, is shut down waiting for another shot. Total depth is 4,590 feet. The Muddy at 4,494-4,515 feet was shot several weeks ago and cleaning out has just been finished. It was found that the anchor under the first shot collapsed, so the shot went off in the pocket.

Carbon County

Following the completion of the Mutual Oil Syndicate's No. 26-C, NW SE NE Section 1-18-78, Dutton Creek, as a gas well in the Shannon, rig is being moved to SE NE SW Section 1-18-78, for No. 13. This is the third well to be drilled by the syndicate for gas in the Shannon sand. To the southeast of these wells, the Ohio Oil Co.'s No. 1 Carbon, NW cor. Section 18-18-77, set the 4¾-inch on top of the Shannon sand at 1,900 feet. Total depth is 2,021 feet. The sand showed considerable gas. It will mark a considerable extension of the gas area to the southeast.

Ohio Oil Co.'s No. 1 Kanawha, SW NW NE Section 34-23-79, Allen Lake structure, south of Medicine Bow, is moving in rotary equipment.

The Lost Soldier Producing Co.'s No. 1, NE NE Section 25-26-88, Mahoney Dome, is bottomed at 4,030 feet (cor.) and is fishing for tools.

Fremont County

The Kinney-Coastal Oil Co.'s No. 3 Enos, SE cor. NW Section 22-3n-1w, Pilot Butte, is rigging up to go to the shallow sand. It is an offset to the recent completion of the Big Four Oil Co.'s No. 4.

The Texas Company's No. 2 State-Ridgway, SE SW SW Section 36-34-95, Alkali Butte, is bottomed at 4,263 feet and testing shows of oil and gas in the Muddy sand at 4,243-60 feet. A little

(Continued on Next Page)

Southeast Ohio Has 27 Wells Now Drilling; Wood County, West Virginia, Is Active

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Dec. 5.—A total of nine wells was completed in the lower eastern fields during the week and there were also reports of two dry holes, both outside tests. Five wells were producers with an initial production of but 32 bbls., and four were gas wells.

In Amwell Township, Washington County, Southwest Pennsylvania, the five wells in that pool which have been held shut down to a minimum on account of curtailment demands were recently opened for a test. The test of the Union Gasoline and Oil Corp. on the Mary B. Lindley farm made several flows at the rate of about 30 bbls. an hour. On the Martha Hazlett farm, the second test of Raymond Orrill & Co. did somewhat better but very little oil had previously been taken from this well as it had been shut in after reaching the Fifth sand and is now rated good for over 100 bbls. a day. No. 1 on this farm is a fair pumper as well as the two wells of the same operator on the G. L. Walker farm. North of these wells, the Carnegie Natural Gas Co. has a rig standing on the Meunzer farm but will not drill at present on account of continued curtailment. It is possible other wells may be drilled in this section soon.

SOUTHEAST OHIO

Three producers, a gas well and a dry hole was the total new work in Southeast Ohio. One was a fair shallow well. It was No. 6 of C. H. Meltzer and others on the Aber and Alexander lease in the northwest quarter of Section 34, Mohican Township, Ashland County. It was drilled in the Berea sand at a depth of 785 feet and produced 5 bbls. the first day natural which after shot increased to 20 bbls. the next two days. In Lake Township of this county, and in the southwest quarter of Section 15, Kundtz, Hulse, Inc. drilled a test on the Howard Young farm through the Berea sand to a depth of 582 feet. It proved to be a dry hole.

In Athens County, in Section 23, Waterloo Township, near New Marshfield, C. O. Young drilled a second test on the Lafayette Hewitt farm in the Grit at a depth of 1,100 feet. It will make a 1-bbl. pumper.

In Vinton County, the Co-operative Oil Co. completed a second test on its own property near Bollins Mills, in Section 3, Knox Township. It is a Grit sand producer at a depth of 1,182 feet and produced 8 bbls. the first day after shot.

In Washington County, on the waters of Wingett Run in Section 32, Ludlow Township, Hall and Henning completed a test on the J. S. McKee farm. It was drilled in the Injun sand at a depth of 1,356 feet and is a gas well rated about 200,000 feet a day.

About 27 wells are now drilling in Southeast Ohio, all well scattered and none being important tests with the exception of one in southeastern Washington County. As in the rest of the lower eastern fields, it is impossible to add much to production on account of necessary curtailment.

WEST VIRGINIA

Only three wells were completed in West Virginia, one of which was a producer. In Grant district, Pleasants County, the Eureka Oil Co. completed a test on the W. P. McTaggart farm in the first salt sand at a depth of 850 feet and has a small producer rated as a half-barrel pumper.

In the new gas pool in Guyandotte district, Cabell County, the Huntington Brick Plant completed a test on its own property in Berea sand at a depth of 2,703 feet. It is a good gas well rated over 750,000 feet a day.

In Gilmer County the McCall Drilling Co. completed No. 6 on the Fletcher H. Stout farm in Center district. It was completed in the Injun sand at 1,940 feet and is a small gas well, the pay being found at about 1,845 feet.

Drilling in West Virginia

There is a decrease in drilling wells in West Virginia which is probably seasonal as after a year of curtailment operations have about reached their low level. In a few places, offset wells have been made necessary due to production found, which locally stimulates drilling. Such a condition is now represented in DeKalb district, Gilmer County, where the well of A. E. Ellis & Co. on the H. E. Engle heirs farm, which came in as a good producer, made offsets necessary. There the South Penn Oil Co. is offsetting with No. 10 on the Weaver heirs farm and the depth is 715 feet. The Virginian Gasoline & Oil Co. has started drilling on the Edward Reynolds farm. Poling and McDonald and others are spudding in on the Miles Snyder farm in the same section. A. E. Ellis and others have a rig on the L. H. Lydick farm and have a rig for a second well on the Engle heirs farm. In the same district, James A. Tierney is drilling deeper his No. 2 on the F. G. Hardman farm.

In Geary district, Roane County, which has been inactive for some time, Clark and Huffman are drilling on the T. F. Smith farm, which has now reached the 1,000-foot level. C. C. Cleavenger and others are down 1,520 feet in a second test on the O. S. and Mary Taylor farm. In Smithfield district, Charles Despard and others have started a new operation on the Charles Starcher farm. They have the materials on the ground.

In Calhoun County several new operations have started. In Sheridan district, Creed Barker and others have started drilling on the Lloyd Kelly farm. In this section, the Chemical Oil Co. has started drilling on the M. J. Fling farm, and Roy Waggoner and others are rigging up for a second test on the J. C. Fling farm. In Washington district, H. H. Sheppard and others are fishing for the tools on the T. C. Burdette farm at a depth of 870 feet. Norris and Cain have materials on the ground on the John T. Miller farm. In Sheridan district, W. A. Bickerstaff has rigged up for a second test on the William Cooper farm.

In Logan County three wells are drilling. In Chapmansville district Roberts and Jarrett are drilling on the Robert Ferrall farm and have reached 400 feet. In the same district the Cumberland Petroleum Co. is down 750 feet in No. 8 on the Merrill Coal Co. tract. In Logan district the West Virginia Gas Co. is drilling at 650 feet in No. 37 on the Guyan Mercury Co. property.

Wood County has become active again. In Walker district, Robert McPeak is building a rig on the R. S. McPeak farm. In Clay district, C. T. Smith has rigged up on the George Weber farm, a location which may be classed as a wildcat. In Williams district, C. S. Reed is drilling a second test on the Reed property of 16 acres. In the same district, Warner Reed is down 700 feet on the J. W. Reed farm.

In Ritchie County W. A. Bickerstaff has started drilling on the Morris and Grimm lease in Murphy district, and the Reno Oil Co. is down 445 feet in a second test on the Michael Kinney heirs farm.

In Monongalia County the South Penn Oil Co. is drilling No. 4 on the A. B. Price farm in Clay district and has reached 1,920 feet. In the same district, the Pedlar Run Oil Co. remains shut down at 2,750 feet on the Lewis R. Hess farm. In Battelle district, the State Line Oil & Gas Co. is shut down at 2,220 feet for a new cable on the Mary J. Straight farm.

In Upshur County L. P. Bickel is drilling on the Charles Moss farm in Meade district. This is the first operation in that county for a considerable time. The hole is 1,680 feet.

SOUTHWEST PENNSYLVANIA

A small producer, a gas well, and a dry hole summarize the week in the Southwest Pennsylvania fields. In North Fayette Township, Allegheny County, the South Penn Oil Co. completed No. 6 on the J. R. McMichael farm near Moon Run in the Fifth sand at 2,256 feet. It is good for about 2 bbls. a day, and the well was cored.

In Greene Township, Greene County, J. B. Orndoff completed a test on the Mae Brown farm in the Injun sand at 1,950 feet. It will make a small gas well.

In Buffalo Township, Washington County, Lawrence and others drilled a test on the McDowell heirs farm trying to extend the Dunkard sand operations of Tague and others in North and South Franklin Townships. It found the Dunkard sand dry at 1,000 feet.

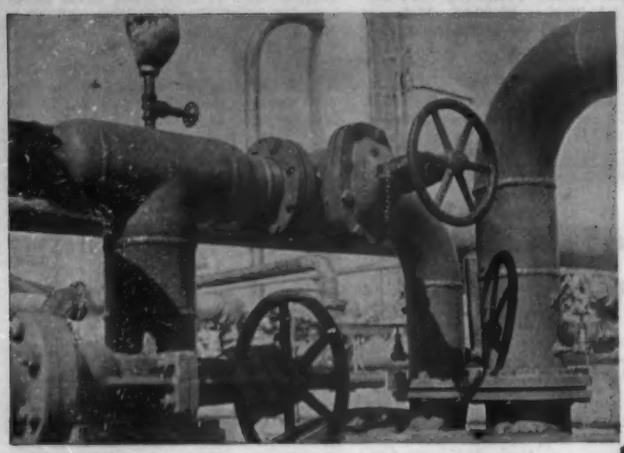
In Harmar Township, M. C. Rodgers and others are drilling a second test on the Grace W. Wolf farm in Allegheny County. It has reached 1,500 feet. In McCandless Township, Frank Hardt is drilling on the John Noving farm close to the small pool recently found. Close by, Oliver Miller & Co. are down 650 feet on the John Cable heirs farm.

Wildcats

Progress was made in all the wildcats drilling in the lower eastern fields. In McDowell County, lower West Virginia, the test of Benedum & Trees on the Pocohontas Coal Co. tract in Big Creek district reached a depth of about 6,400 feet with additional gas.

In Virginia, the Benedum & Trees test on the I. Kaufman farm in Wise County is down about 2,600 feet and in Russell County their test on the Clinchfield Coal Co. tract is drilling at about 3,400 feet.

In Southeast Ohio, after a considerable shutdown for a new cable, E. E. Grimm and Benedum & Trees have resumed drilling in their deep test on the E. E. Knowlton farm in Section 10, Independence Township, Washington County. It is now over 5,800 feet.



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SEAMLESS STEEL FITTINGS FOR WELDING

water is reported showing. The test probably will continue on to the Dakota.

Ward Oil & Gas Co.'s No. 2, NE cor. Section 28-34-90, Dutton Basin, has resumed drilling at 4,150 feet after cleaning out fishing job.

Sublet County

The California Petroleum Corp.'s No. 8-L, SW cor. SE Section 34-27-113, plugged back from 1,005 feet to 900 feet and is cleaning out and fishing for tools.

Big Horn County

The Elk Basin Field, which was shut down a few weeks ago, is again on production and is running an average of 540 bbls. of light oil per day. The Grass Creek light oil wells are still shut in, but around 1,300 bbls. of black oil is being run daily. The Oregon Basin Field is running around 700 bbls. per day, but this is all coming from storage and going to small refineries in Montana.

The Standard Oil Co. of Indiana's refinery at Greybull continues to operate its new 2,500-bbl. unit for handling black oil at about 15 per cent above rated capacity. The crude is taken principally from the Byron-Garland and Hamilton Dome Pools and it is reported that an excellent grade of lubricants is being recovered in addition to the light cuts and road oil. Wyoming has been making good progress in the construction of oiled roads and the results have been so satisfactory that adjoining states are turning more and more to that type of road. The Wyoming state highway department has made an intensive study of the use of road oils and has been very successful in building surfaced roads that hold up exceptionally well. It maintains a road laboratory which tests the soil on all projects before the oil is mixed and spread. The Greybull refinery was fortunate in receiving good orders for lubricants at the same time orders for road oil came in and the filling of both have run concurrently.

W. O. Taylor's No. 1 Hoskins, Lot 5, Section 25-56-97, Byron Dome, is building camp. This test is located on an island in the Shoshone River and will be drilled in a fault block for green oil. Recently it was reported that Paul Ache might become identified with the test. It will be drilled with a rotary.

Hot Springs County

The Empire State Oil Co. is drilling at 1,150 feet in the NE NW Section 14-44-98, Hamilton Dome.

Park County

The Henderson Producing Co.'s No. 10, SW NE NE Section 31-58-99, South Elk Basin, is bottomed at 1,820 feet, where it had 6,500,000 feet of wet gas in the second Frontier, and is underreaming and lowering pipe to the top of the sand after killing the gas. The Continental Oil Co.'s No. 1 Northern Pacific, SE SW NE Section 23-58-98, Frannie Dome, is drilling at 431 feet with rotary.

MONTANA

Carbon County

Ohio Oil Co.'s No. 7 William Robinson, C SE SE Section 3-7s-21, in the Dry Creek Field, put on a spectacular display this week when it made a flow of 200 bbls. in 30 minutes. It gives evidence of ranking with the best wells in the field when finally completed. This well went through the Dakota and into the Lakota at a total depth of 5,753 feet. It showed oil in the Dakota and top of the Lakota and water in the bottom of the last named sand. Efforts were then made to plug back and shut off the bottom water and finally these were successful the past week. The pipe was perforated opposite the Dakota and it is being tested from both sands. More perforations will be made in the pipe opposite the Dakota and the well then will be tested and put on production. The same company's No. 11 Bowman, C SE NE Section 4-7s-21, a mile to the northwest of the nearest producer, is still attempting to shut off bottom water in the Lakota and produce the top part of that sand and the Dakota. It looks as if it will make a producer. The Ohio's No. 1 Souders, C NE SW Section 2-7s-21, is drilling at 1,005 feet.

Carbon Oil & Gas Co.'s No. 1 McMinn, NW SW SW Section 7-7s-22, half a mile south and southeast of the nearest producers, is making a bailing test of a show of oil and gas in 10 feet of the Dakota cored at 5,517-27 feet.

Glacier County

The Santa Rita Oil & Gas Co.'s No. 2 Yunck, NE cor. SE Section 24-34-6w, in the Cut Bank area, a little more than a mile west and south of the Montana Power Co.'s No. 1 Peoples, a gas well, and the same distance southeast of Tarrant's No. 1 Haglund, is being completed as a producer. It found the first sand at 2,773-75 feet and the top of the second sand at 2,811 feet. Casing will be run to the top of the second sand and perforated opposite the thin horizon. R. C. Tarrant's No. 1 Haglund, Sr., NW SW NW Section 13-34-6w, in what is considered the proven area, is setting pipe on top of the sand at 2,730 feet and will be an early completion. G. E. Adams and others' No. 1 Britton, SE cor. NE Section 14-34-6w, an offset to a producer, is drilling at 2,550 feet.

R. C. Tarrant's No. 1 Longmiller, NE cor. Section 24-34-6w, is drilling at 505 feet, and his No. 1 McLellan, C SE Section 7-34-5w, is drilling at 1,350 feet. Tarrant's No. 1 Britton, NE cor. SE Section 14-34-6w, is drilling at 2,380 feet.

The Alberta-Pacific Oil Co.'s No. 1 Matson, NE SE NW Section 14-34-6w, is drilling at 620 feet, and its No. 1 Kiesel, NE cor. SW Section 11-34-6w, is drilling at 280 feet.

The Hannah-Porter Co.'s No. 1 Britton, NW NE NE Section 23-34-6w, is a location. The operation formerly carried under this name as No. 1 Britton, SE cor. Section 14-34-6w, has been changed to L. R. Hannah and others and corrected name and location is No. 1 Mannix-Wikstrand, SE SW SE of Section 14. It cemented pipe below 500 feet. The Dakota-Montana Oil Co.'s No. 1 Drumheller, SW SE NE Section 3-34-6w, is spudding.

The Texas Company's No. 1 Fisher, C S half, SW Section 10-35-5w, in the gas area, is preparing to drill in after running the 6⅝-inch below 2,546 feet.

Toole County

The Eagle Oil Syndicate's No. 1 Haugen, CWL NW NW Section 12-35-3w, in the west end of the Kevin-Sunburst Field, was completed as a 5-bbl. well at a total depth of 1,890 feet. Raymond and others' No. 2 De Groat, SW Section 10-35-2w, is reported dry and abandoned at 1,500 feet.

The Askalta Oil Co.'s No. 8 Farbo, NE NW NE Section 2-37-4w, Border Field, is reported drilling at 2,480 feet, and the Liquid Gold Oil Co.'s No. 1 Roberts, C NW NE Section 25-36-1e, Barthelote district, recemented pipe at 2,644 feet.

Liberty County

The People's Oil & Gas Co.'s No. 1 First National Bank, C SE NW Section 17-36-6e, Bear's Den, is drilling at 2,810 feet.

WASHINGTON

The Ohio Oil Co.'s No. 1-A Robinson, Section 5-17n-9w, Aberdeen-Hoquiam district in Grey's Harbor County, unloaded at 6,725 feet to test and the well flowed 4,000 bbls. of hot water in 24 hours. It is plugging back to test a gas show at 5,200 feet. The test had numerous shows of gas in shale almost all the way down.

OREGON

The Charleston Oil Co., of California, headed by Charles Stone and J. Cleveland, are reported starting a test on the SW Section 9-24-32, near the town of Burns.

E. J. CARLYLE ENTERTAINED

CHATHAM, Ontario, Dec. 3.—Members of the Alberta branch of the Canadian Institute of Mining and Metallurgy entertained E. J. Carlyle, dominion secretary-treasurer, when he visited Calgary last week en route to the dominion convention of the institute at Vancouver, British Columbia. Dr. J. A. Allan introduced the guest. Mr. Carlyle visited the Turner Valley Field, later leaving for the Pacific Coast.

Michigan Reported Three Completions; Two New Tests in Gratiot County

By GEORGE A. WHITNEY

MOUNT PLEASANT, Mich., Dec. 5.—Three completions were reported from the Mount Pleasant-Midland Field, although not as large producers as have been found in the past. Pure Oil Co.'s No. 3 well, 990 feet from the south line and 330 feet from the west line of the A. Seeley farm, in the SW SE Section 9, Midland Township, Midland County, produced initially about 350 bbls. from the Dundee. W. L. McClanahan, Inc.'s No. 2 well, 330 feet from the north and east lines of the W. S. Root farm, in the NE NE SW Section 12, same township, produced 20 bbls. an hour initially, and is rated as good for 350 bbls. The third completion was made by R. D. Malcolm in a second test on the Hastings farm, in the NE SE SE Section 13, same township, reported with an initial around 150 bbls.

Michigan Pacific Oil & Gas Co.'s test, in the northeast corner of the Charles S. Hoyt farm, in the NW NW NE Section 24, Jasper Township, Midland County, at 35 feet in the Dundee formation, made only a light showing and the outlook for a commercial producer is doubtful. This is a wildcat marking a new boundary far to the southeast of present production.

Gordon Oil Co.'s No. 2, in the northwest corner of the William D. Hewitt farm, in the NW NW NW Section 18, Lee Township, Midland County, near the eastern border of production, went to water and is being plugged back preparatory to be given acid treatment.

Columbia Oil & Gas Co. is reported drilling into the Dundee its test in the northeast corner of the Gilson-Fales farm, in the NE NE SE Section 16, Greendale Township, Midland County. This well if it proves a commercial producer will in probability stimulate additional drilling in Section 16, being in the north part of the section just off M-20 route.

Pure Oil Co.'s No. 2-A well, 1,650 feet from the north line and 990 feet from the east line of the Claud E. Harnick farm, in the NE Section 14, Greendale Township, is nearing completion, being just on top the Dundee.

There is a little revival of activity in the northwest area of the old Chippewa Field around C. F. White's No. 1, in the southeast corner of the W. A. Dennis and others' farm, in the SE NW Section 3, Chippewa Township, Isabella County. This well found a pay sand in the Traverse formation, there being approximately close to 2,000 feet of oil in the hole and it will be given an acid test. The test may be drilled to the Dundee. Goll, Graves & Meckling's No. 2 well, 330 feet from the south line and 990 feet from the east line of the C. F. Adams farm, in the SW NW Section 2, Chippewa Township, is drilling again after a shutdown and expects to reach the Dundee within a few days.

New Drilling Permits

Permits were issued to W. J. Sovereign, for No. 2 well, 300 feet from the north line and 540 feet from the west line of the Perre Marquette land, in the NW NW NE Section 9, Broomfield Township, Isabella County; to Gordon Oil Co. for No. 6 well, 330 feet from the south and east lines of the N. J. Skinner farm, in the SE SE NE Section 16, Greendale Township, Midland County; to Johnson Oil & Refining Co. for No. 1 well, 1,070 feet from the west lines of the James Gilpin farm, in the SW SE Section 15, Levitt Township, Oceana County; to the Wittmer Co. for No. 2 well, 450 feet from the north line and 1,120 feet from the east line of the Sarah Cashen farm, in the NW NE SW Section 30, Denver Township, Isabella County; and to the Smith Petroleum Co. for No. 1 well, 330 feet from the south line and 990 feet from the west line of the Richard Johns and others' farm, in the W half SW Section 21, Birch Run Township, Saginaw County.

Oil and gas leases on about 6,000 acres of land in Alcona County, in Michigan, owned by the Lost Lake Woods Association have been negotiated with C. E. White, of Chicago, former oil operator in the Montana oil fields. The lease contract calls for the drilling of five wells to test the leased territory, according to O. R. Baker, president of the club grounds of the association, and drilling operations are to be started not later than January 1, 1933.

A growing demand for Michigan crude is cited as one of the chief reasons for the continued drilling despite wintry weather. Total oil production in Michigan for the first nine months of 1932 has been in excess of 5,000,000 bbls., which is higher than for any previous entire year in the history of the State's petroleum industry, according to the Geological Division of the Michigan Conservation Department. A new high monthly production record was established in September when production in the State reached 759,887 bbls.

The State of Michigan is now receiving annually approximately $23,000 through the rentals of state owned lands leased for oil and gas development, according to the Michigan Conservation Department. Since 1931 oil and gas leases on 13,465 acres of state-owned lands in Isabella, Midland, Clare, Gladwin and Ogemaw Counties have been sold at auction for a total bonus of $13,050. There are 18 producing wells on state leases. When the lands are sold at public auction to the highest bidder the State reserves one-eighth royalty from production in wildcat territory and from one-eighth to one-fourth in proven fields.

Gratiot County

The development to be made by the Shell Petroleum Corp. in Gratiot County, will be closely watched by those interested in development work. The contract for two wells for the Shell Petroleum in Gratiot County, has been given to John C. Arthurs, Inc., of Cleveland, Ohio. The rigs for the two tests are up and drilling will be started at once. The two tests are: No. 1 well, 660 feet from the south and east lines of the J. Covell farm, in the C SE NW Section 15, Seville Township, the other being a test 660 feet from the north and west lines of the Aubry Mellinger farm, in the C NW SW Section 9, North Star Township. The Covell farm test is 4½ miles west and one-half mile south of Forest Hill and the No. 1 Mellinger test is 2 miles east and 2 miles south of Ithaca. It is pointed out that oil and gas tests in Gratiot County thus far have been not very well equipped and unsystematic, but with the Shell corporation taking hold after having paved the way with an extensive leasing campaign over a period of months, it is felt that Gratiot County is at last to be given the advantage of thorough going trial operations. Simultaneously with its operations in Gratiot, the Shell corporation will start its No. 1 well, 660 feet from the south and west lines of the William Fritz farm, in the C SW SW Section 13, Broomfield Township, Isabella County, and approximately 9 miles west of Mount Pleasant on State Highway M-20. The three tests are located on a southeastern structural trend extending diagonally for many miles across that part of the State.

At the present time there are approximately 35 tests under way in Central Michigan, nearly as many as at the peak drilling period early in the past summer. An even greater drilling rate is forecast if any of the present pending pipe line projects are carried out. Opening of gas markets would without doubt be followed by a heavy drilling campaign in the gas areas of the field and ex-

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ploration in wildcat districts. The well to be drilled by the Shell Petroleum Corp. on the Fritz farm, Section 13, Broomfield Township, Isabella County, will be an important one, due to the fact that it is about 2 miles southeast of the good gas wells on the Keeler-Mitchell property, in Section 10, same township.

Wildcat Operations in Oklahoma

(Continued from Page 51)

PONTOTOC COUNTY

Delaney's No. 1 Harden, NE SW Sec. 30-2-7 ..... Fishing 306 ft.
Blackwell Oil & Gas Co.'s No. 1 Abbott, NW SW NE Sec. 14-4-6 ..... 1,930 ft.; 4,000,000 ft. gas, to bradenhead; rig burned.
Williams' No. 1 Krath, NE SE Sec. 33-3-4 ..... S.D. 1,545 ft.
Edna Marie's No. 1 McWhirt, NE SE Sec. 11-2-6 ..... S.D. 570 ft.
Sunray Oil's No. 1 Grant, SE NE Sec. 11-4-8 ..... Drlg. 2,885 ft.

POTTAWATOMIE COUNTY

Brown et al's No. 1 Sauter, NW cor. Sec. 35-11-4 ..... Digging cellar.
Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4. Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-13-24w ..... S.D. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w..... S.D. 3,420 ft.

SEMINOLE COUNTY

Donnelly et al's No. 1 Shepard, SE NE Sec. 4-8-8 ..... S.D. 1,270 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Montgomery, SW NW SE NW Sec. 23-9-17w ..... S.D. 1,004 ft.
Miley Pet. Co.'s No. 1 Wolfe, NE SW Sec. 33-9-17w ..... Rig.
Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w ..... Show oil 2,459-67 ft.; S.D. 2,757 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... S.D. 2,160 ft.

Oklahoma Panhandle

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1E ... T.D. 4,720 ft.; to cement.

Southern Oklahoma

ATOKA COUNTY

L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10.. Drlg. 575 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10 ..... Drlg. 3,368 ft.

MARSHALL COUNTY

Lee Cross' No. 1 Hamlin, SE SW SW Sec. 34-4S-5 ..... S.D. 654 ft.
Thomas' No. 1 Setliff, SW SE SE SW Sec. 36-5s-6..... Drlg. 625 ft.

McCURTAIN COUNTY

Stampfs' No. 1 Robert Harris, SW NW SW Sec. 14-3s-25..S.D. 2,778 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-19 ..... S.D. 1,950 ft.

STEPHENS COUNTY

Geo. Pace et al's No. 1 Peck, NW SW Sec. 32-2s-6w.... Drlg. 965 ft.
Calif. Prod. & Oper. Co.'s No. 1 Garnett, SE NE NE Sec. 11-3s-6w ..... S.D. 325 ft.
Calif. Prod. & Oper. Co.'s No. 1 Suton, NE SE SW Sec. 12-3s-6w ..... Rig.
Gillette Bros.' No. 1 Cooley, NW SE NW Sec. 17-2s-8w...S.D. 580 ft.
George's No. 1 Ryan, NW SW NE Sec. 31-3s-15 ..... S.D. 510 ft.

Wildcat Operations in Kansas

(Continued from Page 52)

ELLIS COUNTY

Phillips Pet. Co.'s No. 1 Unknown, C SW Sec. 33-11-17w.. Location.

ELLSWORTH COUNTY

Henry et al's No. 1 Arnsman, C SW SW Sec. 10-18-7w..Rig.
Sinclair Prairie's No. 1 Unknown, C NE NE Sec. 27-15-8w ..... Spudding.
Buckford's No. 1 Burke, C NE SW Sec. 14-14-9w ..... S.D. 50 ft.
Gurley Bros. and Barnsdall's No. 1 Union Pacific, NW SW Sec. 7-14-7w ..... Drlg. 2,785 ft.
R. Gear et al's No. 1 Kroboth, SE NW Sec. 12-15-10w... Drlg. 1,720 ft.

FINNEY COUNTY

L. F. Meyers' No. 1 Brown, S SW Sec. 16-25-34w..... Drlg. 2,500 ft.

FORD COUNTY

Swain et al's No. 1 Henthorn, C NW Sec. 21-25-24w..... Top Sil. 5,669 ft.; T.D. 5,782 ft., dry and abnd.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w..... R.U.S.T. 3,615 ft.

GREENWOOD COUNTY

York State Oil Co.'s No. 1 Joy, SE cor. Sec. 11-23-11..... T.D. 1,900 ft.; dry and abnd.

HARVEY COUNTY

Phillips Pet. Co.'s No. 1 Weebe, NE SE NE Sec. 30-23-2.. Rig.

HASKELL COUNTY

Victor Martin et al's No. 1 Weeks, C NW Sec. 5-28-31w... Rig abnd.

MARION COUNTY

Farrell et al's No. 1 Williamson, C NW SE Sec. 21-19-4.. S.D. 1,015 ft.
Vernon et al's No. 1 Schmidt, C SW NW Sec. 35-19-1..... Drlg. 2,440 ft.

McPHERSON COUNTY

Holcomb & Trummer's No. 1 Waltner, SW NE SE Sec. 19-20-2w ..... Location.
Whan et al's No. 1 Nelson, NW SE Section 13-19-3w..... Location.
Darby Pet. Co.'s No. 1 Pankratz, NW SE Sec. 5-20-1..... T.D. 3,455 ft.; dry and abnd.
Snyder et al's No. 1 Carlson, SE cor. Sec. 4-19-3w..... S.D. 2,358 ft.
Sidwell et al's No. 1 Nichols, NE NW NW Sec. 23-17-1w..S.D. 1,205 ft.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22, 34-43w ..... T.D. 3,640 ft.; temp. abd.

MORRIS COUNTY

Urschel et al's No. 1 Borsuch, NW SE NW Sec. 10-17-7... Dry and abnd., 1,832 ft.

NESS COUNTY

Sinclair Prairie Oil & Gas Co.'s No. 1, C SW SW Sec. 18-18-21w ..... Drlg. 257 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w ..... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15..... S.O. 2,190-2,200 ft.; temp. abnd.

PRATT COUNTY

Minnesecah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w ..... Drlg. 3,357 ft.

RENO COUNTY

T. L. Johnson's No. 1 Crotts, NE NW NE Sec. 27-26-10w..S.D. 50 ft.

RICE COUNTY

R. Ramsey's No. 1 School Lot, NW SW NW Sec. 32-19-9w. Drlg. 3,900 ft.
Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w..... Rig.
J. Liggett et al's No. 1 Thodel, C NW NW Sec. 11-21-7w..S.D. 50 ft.

RUSH COUNTY

Skelton et al's No. 1 Brock-Hartman, SW SE NE Sec. 4-18-16w ..... S.D. 50 ft.

SALINE COUNTY

Frank Dieter's No. 1 Fulton, SW NW Sec. 14-16-3w..... Rig.

SHERIDAN COUNTY

Vie et al's No. 1 Shoemaker, SE SW Sec. 27-7-26w ..... Hole full water 4,535-45 ft.; dry and abnd.

STEVENS COUNTY

Argus Prod.'s No. 3 Christopher, C NE Sec. 10-33-39w....S.D. 5,521 ft.

STAFFORD COUNTY

Stringer et al's No. 1 Swindle, SW NE Sec. 2-25-11w..... Spudded; S.D.

SUMNER COUNTY

Austin et al's No. 1 Fog, SW SE SE Sec. 14-34-1w..... T.D. 4,348 ft.; P.B. to 3,960-4,005 ft.; swab. 3 bbls. and abnd.
Tress Oil Co. and Shell's No. 1 Springate, NE SE SW Sec. 6-34-3 ..... Fishing 3,639 ft.

WOODSON COUNTY

Steedy et al's No. 1 Ryan, NE SW SW Sec. 32-24-14 ..... Drlg. 240 ft.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 53)

Caddo-Prairie Dev. Co.'s No. 1 Nichols, 660 ft. N, 400 ft. E, SW cor. NE SW Sec. 10-22-15 ..... Reaming to bottom; T.D. 2,272 ft.

CLAIBORNE PARISH

Leue Oil Co.'s No. 1 Kiner, Sec. 2-21-7 ..... Rigging up.
A. W. Phillips, Tr.'s No. 1 Jehu Knighton, 330 ft. N, 330 ft. E SW cor. NE SE, Sec. 31-20-7 ..... Derrick.
Robertson & Aurand's No. 1 Smith, 300 ft. S and E, NW cor. SE NE Sec. 8-21-7 ..... Cored sandy shale 1,416 ft; S.D. 1,430 ft.

DE SOTO PARISH

Baggett et al's No. 1 Moore, 330 ft. S, 330 ft. W NE cor. NW, Sec. 1-13-15 ..... Derrick.
Coker et al's No. 1 Boone, 200 ft. N and W, SE cor. SW NW Sec. 12-10-11 ..... S.D. 60 ft.
Donley & Chastain's No. 1 H. Smith, 325 ft. W, 600 ft. N, SE cor, Sec. 31-14-15 ..... S.D. 2,470 ft.
M. B. Gill's No. 1 W. J. Hill, 330 ft. N, 330 ft. E center Sec. 4-10-13 ..... Rig up.
Honeycut O. & G. Co.'s No. 1 Porter, 423 ft. S, 414 ft. W, NE cor. NW NE Sec. 26-12-13 ..... Coring brown shale; show gas 2,740 ft.
S. A. Guy's No. 1 Dowling, 469 ft. E, 382 ft. S, NW cor. NE Sec. 21-14-14 ..... D.S. test 3,075 ft; dry; W.O.
Mrs. A. L. Ibach, tr.'s No. 1 Rambin, 250 ft. S and E, NW cor. NE NE Sec. 32-11-11 ..... Began Nov. 14; cmtd. 10-in. 161 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW Sec. 30-13-15 ..... Coring shale 4,408 ft.
DeSoto Dev. Co.'s No. 1 Nickey, Sec. 7-13-13 ..... Partly rigged up and S.D.
Geo. L. Pace's No. 1 John Cole, 200 ft. N, 150 ft. E, SW cor. SE NE Sec. 11-11-11 ..... Rig up.
G. C. Smith et al's No. 1 Wollums, 330 ft. N and W, SE cor. Sec. 30-12-12 ..... S.D. chalk 1,400 ft.
E. J. Stanberry's No. 1 Naborton O. & G. Co., Sec. 32-13-11 ..... Washing to bottom; T.D. 850 ft.
State Drlg. & Prod. Co.'s No. 1 Wemple, 330 ft. N and E, SW cor. NW SW Sec. 14-13-11 ..... Began drlg. Nov. 27; cmtd. 10-in. 60 ft.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13.... Recmtd. split csg; W.O. 2,765 ft.
Warren & Craig's No. 1 J. A. Wagner, 150 ft. S and W, from C, Sec. 5-12-14 ..... Hole clean; S.D. 750 ft.; W.O.
Jack Whitson's No. 1 Sanders, 330 ft. N and E, SW cor. Sec. 19-11-13 ..... Coring black shale; streaks of sand 1,966 ft.

GRANT PARISH

A. W. Phillips, tr.'s No. 1 Cameron, 300 ft. N, 200 ft. E, SW cor. SW NW Sec. 26-7-3w ..... Derrick.
O. Robichaux's No. 1 T. M. Bradford, 1,870 ft. E, 314 ft. S, NW cor. Sec. 16-9n-1e ..... Derrick.

LINCOLN PARISH

Loring Oil Co.'s No. 1 Simonton, 300 ft. N, 480 ft. E, SW cor. SE NE Sec. 25-20-4w ..... S.D. anhydrite 3,965 ft.; waiting on fuel.

MOREHOUSE PARISH

Feasel & Kalil's No. 1 Davenport, Sec. 28-21-6e ..... S.D. 2,510 ft.
H. W. Snowden's No. 1 Meyers, 330 ft. S and E, SW cor. NE NE Sec. 15-22-7e ..... S.D. 80 ft.

NATCHITOCHES PARISH

Allender & Rasmussen's No. 1 Cane River, 330 ft. N and W, SE cor. Sec. 61-6n-5w ..... S.D. 100 ft.
W. M. Coates' No. 1 Ross Olive, Sec. 10-9-10, 660 ft. S and E from cen. of Sec. ..... S.D. 2,010 ft.
Dr. H. S. Gerson's No. 4 Smith, 2,710 ft. N, 990 ft. W of most northerly cor. Sec. 10 in Sec. 11-10-8 ..... Cmtd. 10-in. 20 ft.; drlg. 60 ft.
J. B. Oil Co.'s No. 1 Hankins et al, Sec. 67-10-7 ..... S.D. 670 ft.
Natchitoches Pet. Co.'s No. 1 Edenbarn, 2,240 ft. W, 1,320 ft. S, NE cor. Sec. 4-11-6w ..... S.D. 2,234 ft.
H. W. Perritt's No. 1 Cook, 165 ft. E, 165 ft. N, SW cor. NE SW Sec. 3-8-9 ..... S.D. 2,992 ft.
Texana Oil Co.'s No. 1 Clark-Morris Lbr. Co., 878 ft. N, 660 ft. E, C, Sec. 23-5-6 ..... Set 6⅝-in. 3,300 ft; tested S.W. 3,475 ft.

OUACHITA PARISH

Milhivan Gas Corp.'s No. 1 W. Va. L. & T. Co., 1,980 ft. E, 1,320 ft. N, center Sec. 10-17-5e ..... Location.
Monroe Oil & Royalties Co.'s No 1 Thieler, 150 ft. N and E, SW cor. SE NW Sec. 34-18-2e ..... S.D. 2,575 ft.
Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE ..... S.D. 3,480 ft.

RAPIDES PARISH

Pet. Industries, Inc.'s No. 1 Lee Lbr. Co., 330 ft. N, 300 ft. W, SE cor. NW SE Sec. 13-5n-2e ..... Derrick.

RED RIVER PARISH

Edward & Clay's No. 1 Delta Pecan Co., 1,600 ft. N, 450 ft. E, SW cor. Sec. 27-13-11 ..... Drlg. 1,410 ft.
G. T. Shaw et al's No. 1 Wilkinson, 300 ft. N, 460 ft. W, SE cor. NE SE Sec. 4-12-10 ..... Rig up.

RICHLAND PARISH

Humble Prod. Co.'s No. 1 fee, SW NW Sec. 11-14-6..... Location.

SABINE PARISH

Byers et al's No. 1 Bishop, SW cor. SW NE Sec. 16-7-13. S.D. 41 ft.
Coates Pet. Co.'s No. 3 Stille, 330 ft. N and E, SW cor. Sec. 35-8-13 ..... Location.
Mark Curtis et al's No. 1 Sabine Lbr. Co., 330 ft. N and W, SE cor. NE SE Sec. 35-8-13 ..... S.D. 2,400 ft.
B. Q. Daniels' No. 1 Armstrong, SE cor. SE NE Sec. 31-5-16 ..... Derrick.
Flinchbaugh & Myers' No. 1 Aaron, 250 ft. S and E, NW cor. Sec. 32-9-13 ..... Rigged up on second hole; W.O.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW Sec. 10-8-13 ..... S.D.; shale and lime 6,830 ft.
Gibson & Johnson, Inc.'s No. 2 Frost Lbr., 330 ft. S and W, NE cor. NW NE Sec. 15-9-13 ..... Drlg. chalk 1,650 ft.
W. N. Hankins' No. 1 Tilley, 200 ft. E, 30 ft. S, NW cor. SE SE Sec. 30-8-13 ..... Swedging out 6-in. csg. 2,162 ft.
R. T. Henderson's No. 1 Sistrunk, 450 ft. N, 150 ft. W, C, Sec. 9-9-13 ..... Began drlg. Nov. 21; cmtd. 10-in. 88 ft.; drlg. 1,000 ft.
Helis et al's No. 1 Sabine State Bank, 350 ft. N and W, SE cor. SW SW Sec. 28-8-11 ..... S.D. 1,700 ft.
Ab Jones' No. 1 Garcia, 200 ft. S and W, NE cor. NW SE Sec. 4-7-13 ..... Set 6-in. 2,070 ft.
G. E. Jordan's No. 1 Dew, 330 ft. N, 340 ft. E, SW cor. SW SE Sec. 34-8-11 ..... S.D. for wtr. 950 ft.
E. P. Kilgore's No. 1 Thomas, 320 ft. S, 200 ft. E, NW cor. SE Sec. 30-8-11 ..... Comp. flowing 1,000 bbls. 2,341 ft.
Lane, Bundy & Allen's No. 1 Andree, Sec. 22-7-11 ..... Derrick.
C. D. Lee, tr.'s No. 1 Whitney, 330 ft. N and W, SE cor. NW NE Sec. 12-9-14 ..... Coring 1,514 ft.
Ben Merritt's No. 1 Lucina, 400 ft. N, 375 ft. E, SW cor. SW NE Sec. 4-5-13 ..... Derrick.
Paul L. Miller, tr.'s No. 1 Chadick, 550 ft. S, 178 ft. E, NW cor. NE SW Sec. 12-8-10 ..... Comp. pumping 40 bbls. 2,589 ft.
E. F. Neely's No. 1 Rains, 660 ft. N, 100 ft. W, SE cor. SW NW Sec. 14-7-11 ..... Comp. pumping 40 bbls. 2,540 ft.
W. M. Neely's No. 1 Buvens, 350 ft. S, 100 ft. E, NW cor. NE Sec. 21-7-11 ..... T.A. 2,458 ft.
C. D. Neff, tr.'s No. 1 Snell, Sec. 9-7-11, 350 ft. N, 660 ft. W, SE cor. Sec. ..... W.O.S.R. 2,569 ft.
H. W. Perritt's No. 2 Brown Lbr. Co., 519 ft. S, 455 ft. W, NE cor. NW NE, Sec. 31-8-10 ..... S.D. 1,570 ft.
Roy Raines et al's No. 1 Beard, 720 ft. E, 700 ft. N, SW cor. SW SE Sec. 3-8-10 ..... Set 10-in. 41 ft; S.D. 250 ft.
Reeves & McNeely's No. 1 Ponder, 330 ft. N and W, from C, Sec. 15-7-11 ..... Began Nov. 7; cmtd. 10-in. 21 ft.
Thornton et al's No. 1 S. S. Martinez, 355 ft. S, 330 ft. W, NE cor. SE NE Sec. 4-7-13 ..... S.D. 2,048 ft.

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Otis A. Roberts' No. 1 Sabine Lbr. Co., 224 ft. S, 481 ft. W, NE cor. SW NE Sec. 5-7-13 ..... S.D; W.O. 2,500 ft.
Roberts & Sledge's No. 1 La. Long Leaf Lbr. Co., 290 ft. N, 468 ft. E, SW cor. NE SE Sec. 29-8-10 ..... Derrick pattern.
Roberts & Sledge's No. 2 Sabine Lbr. Co., 803 ft. W, 796 ft. N, SE cor. SE SW Sec. 5-7-13 ..... W.O.S.R. 2,480 ft.

CONVERSE DISTRICT

Alford & Cleary's No. 1 Jackson, 330 ft. N and E, SW cor. SE NW Sec. 10-9-13 ..... Location.
Alford & Cleary's No. 1 Patrick, 330 ft. S and W, NE cor. SW NE Sec. 11-9-13 ..... Location.
Cloud & Bolin's No. 1 Bowman-Hicks, SE cor. NE NE Sec. 26-9-13 ..... Cored sand and marl 1,724 ft; bailed down 1,200 ft.; no show; drlg. 2,020 ft.
Evans Bros.' No. 1 Crawford, 300 ft. S, 300 ft. W NE cor. SE SE, Sec. 20-9-13 ..... Location.
H. P. Key's No. 1 T. J. Paul, 120 ft. S, 110 ft. W, NE cor. Blk. 25, Converse townsite in Sec. 10-9-13 ..... Location.
H. C. Lessenger's No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. Sec. 13-9-13 ..... Derrick.
Lee & Burentt's No. 1 Burckett, 330 ft. N and W, SE cor. NW SW Sec. 10-9-13 ..... Cored 1,600 ft; no sand; pulled csg. at 1,472 ft.; S.D. 1,635 ft.
Hy Rockmill's No. 1 Cassell, 330 ft. S, 330 ft. W, NE cor., Sec. 35-9-14 ..... Derrick.
Rockmill et al's No. 1 Bowman-Hicks, 330 ft. S and W, NE cor. NW Sec. 36-9-14 ..... Began Nov. 24; cmtd. 10-in. 45 ft.
Nick Barbare's No. 1 Ryals, 330 ft. S and E, NW cor. Sec. 27-9-13 ..... Cmtd. 6-in. 1,515 ft.; top sand 1,535 ft.; T.D. 1,555 ft.
Rockmill et al's No. 1 Patrick, 330 ft. S, 330 ft. E, NW cor. NE NW Sec. 21-9-13 ..... Rig up.
E. M. Self's No. 1 Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-13 ..... Derrick.
Service Drlg. & Royalty Corp.'s No. 1 Whitney Corp., 330 ft. N and W, SE cor. Sec. 32-10-13 ..... Rigging up.
Ben Youngblood et al's No. 1 Burket, 330 ft. S and W, NE cor. NE NW Sec. 10-9-13 ..... Derrick.
Roshko & Labarre's No. 1 Maines, 427 ft. E, 114 ft. N, SW cor. SE NE Sec. 35-8-11 ..... Began Nov. 4; cmtd. 12½-in. 106 ft.
Sabine Prod. Co.'s No. 1 Whiting Corp., 150 ft. N and E, SW cor. Sec. 4-9-13 ..... Top marl 1,470 ft. and cmtd. 6-in.; drlg. 1,730 ft.
Silvey & O'Mara's No. 1 Sabine Lbr. Co., 300 ft. S, 600 ft. W, NE cor. SW NE Sec. 9-7-13 ..... Set 8-in. 42 ft.; S.D.; repairing rig 2,100 ft.
Skidmore & Mize's No. 1 Stoker, 440 ft. N, 225 ft. E, SW cor. SE NW Sec. 33-8-10 ..... S.D. 1,450 ft.
C. W. Smith et al's No. 1 Pattison, 330 ft. S and E, NW cor. SE NW Sec. 33-10-11 ..... Drlg. shale 1,170 ft.
Southland Drlg. Co.'s No. 1 Frost Lbr. Co., 330 ft. N and W, SE cor. NE NE Sec. 13-9-11 ..... Drlg. 2,220 ft.
H. B. Stacey et al's No. 1 Hefkobits, 457 ft. N, 523 ft. E, SW cor. SE Sec. 34-8-13 ..... S.D. 2,652 ft.
Triangle Drlg. Co.'s No. 1 La. Long Leaf Lbr. Co., 330 ft. N and W, SE cor. Sec. 11-6-11 ..... S.D. 4,013 ft.
W. M. Underman's No. 1 F. Cross, 53 ft. S, 146 ft. W, NE cor. SW SE Sec. 25-8-11 ..... Drlg. 2,965 ft.

TENSAS PARISH

H. V. Schumacker's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor. Sec. 39-11-12 ..... S.D. 3,645 ft.

UNION PARISH

E. S. Goens et al's No. 1 Frost Lbr. Co., 330 ft. S and E, NW cor., Sec. 17-22-2e ..... Rigging up.
W. D. Wingfield et al's No. 1 Union Sawmill Co., 330 ft. N and E, SW cor. Sec. 27-23-1e ..... Began Nov. 13; cmtd. 10-in. 153 ft.
Wong Hing, tr.'s No. 1 Union Sawmill Co., 712 ft. W, 240 ft. N, SE cor. Sec. 15-22-1e ..... S.D. 70 ft.

VERNON PARISH

Earl Jones' No. 1 Willis, 350 ft. N, 400 ft. E, SW cor. SE SE Sec. 32-3n-9w ..... Derrick.
Lisno Co-operative Colony's No. 1 fee, NW NE, Sec. 34-2n-9w ..... Top Cockfield 3,333 ft.; S.D. 3,480 ft.

WEBSTER PARISH

R. E. Silvey et al's No. 1 Drake est., C NE NE Sec. 14-19-10 ..... Began drlg. Nov. 29; drlg.

WEST CARROLL PARISH

Mamie S. McCurry's No. 1 Richard & Donnaw, 300 ft. N and E, SW cor. Sec. 13-19-9e ..... Rigging up.

WINN PARISH

P.V.T. Oil Co.'s No. 1 Southern Paper Co., 150 ft. S and W, NE cor. SW Sec. 28-13-3 ..... S.D. for 8-in. csg. 1,050 ft.

Arkansas

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C NW SE Sec. 4-20-8 ..... S.D. 1,253 ft.

CLEBURNE COUNTY

Frank S. Craver et al's No. 2 Doniphan Lbr. Co., 700 ft. N, 200 ft. E, SW cor. SW Sec. 34-11-9 ..... Hard rock 3,360 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, 300 ft. S and E, NW cor. NE NE Sec. 13-17-22 ..... Cmtd. 6-in. 2,460 ft; claim show oil and gas 2,520 ft.; bailed down 1,100 ft.; S.W. show.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW ..... S.D. 3,378 ft.

JEFFERSON COUNTY

R. V. Harrell et al's No. 1 McGoughey, NW cor. Sec. 22-7-10 ..... Location.

LAFAYETTE COUNTY

Chas. McDonald's No. 1 Allen, 400 ft. N and W, SE cor. SE SW Sec. 2-19-26 ..... Top Nacatoch 1,765 ft; top chalk 2,247 ft.; S.D.; fuel; T.D. 2,695 ft.
Sam E. Wilson, Jr.'s No. 1 Smith, 330 ft. N and E, SW cor. NW SE Sec. 24-19-25 ..... Derrick.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW Sec. 5-8-7 ..... Arranging to set 1,000 ft. of 8-in; T.D. 3,250 ft.

LITTLE RIVER COUNTY

American Portland Cement Co.'s No. 1 fee, 150 ft. S and E, NW cor. SW NE Sec. 21-12-32 ..... Cmtd. 10-in. 100 ft.; drlg. 690 ft.
M. E. Sanderson's No. 1 Hale, 1,200 ft. E, 800 ft. N, SW cor. SE SE Sec. 22-12-29 ..... S.D. 1,405 ft.

MILLER COUNTY

Roy Baker et al's No. 1 Beck, 150 ft. N and E, SW cor. SW SE, Sec. 11-17-27 ..... Began drlg. Nov. 24; cmtd. 10-in. 110 ft.; drlg. shale 900 ft.
Dennis & Cubage's No. 1 Head, 150 ft. E, 200 ft. N, SW cor. Sec. 20-15-26 ..... Drlg. gummy shale 2,922 ft.
Duluth-Ark. Oil Co.'s No. 1 Beck, 150 ft. N, 170 ft. E, SW cor. NW SW Sec. 34-15-26 ..... D.S. test 11 ft.; S.D.; T.D. 2,796 ft.
Fitzwater et al's No. 1 C. J. Norsen, SW cor. SE SW Sec. 20-15-27 ..... S.D. 1,960 ft.
Fitzwater et al's No. 1 Fouke, 150 ft. S and W, NE cor. Sec. 11-17-27 ..... S.D. 105 ft.
Foster et al's No. 1 H. F. Smith, SE SW Sec. 29-16-26 ..... Derrick.
Chas. B. Lenz's No. 1 Dean, 125 ft. E, 200 ft. S, NW cor. SE Sec. 19-15s-25w ..... Drlg. 2,575 ft.
W. R. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor. Sec. 11-20-27 ..... S.D; W.O. 2,600 ft.
John C. Rogers' No. 1 Price, 230 ft. S, 400 ft. E, NW cor. NW NW Sec. 17-16-26 ..... Rigging up.
Sorrells & Tidwell's No. 1 Roy McCowan, 660 ft. S and E, NW cor. NW SE Sec. 22-15-28 ..... Set 10-in. 106 ft.; top Nacatoch 775 ft.; S.D.
Stephens, Byers & Sartain's No. 1 Lowe, NE cor. NW NW, Sec. 14-16-27 ..... Derrick.

OUACHITA COUNTY

McLeon et al's No. 1 L. D. Neely, Sec. 23-15-16, 200 ft. N and W, SE cor. NE SW ..... S.D. 150 ft.
Chas. Steele et al's No. 1 Anderson, 155 ft. S, 150 ft. E, from center Sec. 36-12-18 ..... T.D. 1,015 ft.

PIKE COUNTY

E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE Sec. 31-8-24 ..... S.D; W.O. 1,020 ft
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor. Sec. 13-9-23 ..... S.D; rig.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW Sec. 3-4n-6w ..... Partly rigged up and S.D.

ST. FRANCIS COUNTY

E. R. Henderson's No. 1 Britton, Sec. 1-4-1e, 1,000 ft. S and E, NW cor. NE NW ..... S.D. shale and gumbo 3,725 ft.

UNION COUNTY

E. H. Cassity, tr.'s No. 1 F. L. Dumas, 200 ft. N, 300 ft. W SE cor. SE SW Sec. 10-17-16 ..... Derrick pattern.
Cox et al's No. 1 Goodwin, 360 ft. S, 180 ft. W, NE cor. SW SW Sec. 3-16-16 ..... S.D. 140 ft.
Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-19-16 ..... Derrick.
Mamie McCurry et al's No. 1 Rowland, 200 ft. N and E, SW cor. Sec. 9-19-11 ..... Derrick.
Wilson & Chapman's No. 1-A D. Norman, 330 ft. S and E, NW cor. N½ NE SE Sec. 3-18-13 ..... S.D. 1,678 ft.

WASHINGTON COUNTY

(Cable tools)

A. B. Chase and Ed Rogers' No. 1 Cunningham, 125 ft. S, 300 ft. W, NE cor. SW NE Sec. 14-15-32 ..... S.D. 1,750 ft.

WOODRUFF COUNTY

B. F. Thompson's No. 1 Rosser, 500 ft. N and E, SW cor. SE SE Sec. 7-5n-2w ..... Set 10-in. 200 ft; drlg. 440 ft.

YELL COUNTY

Rainbow Oil & Gas Co.'s No. 1 Barrett, SE cor. NE NE Sec. 16-5n-24 ..... Derrick.

East Texas

BOWIE COUNTY

Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. ..... S.D. 4,505 ft.
Lanford et al's No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 1,792 ft.

CASS COUNTY

Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Lattimer Sur. ..... S.D. 2,860 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 85 ac. in K. E. Welborn Sur. ..... S.D. 2,280 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor. Wm. Davis Sur. ..... S.D. 960 ft.

HARRISON COUNTY

Great Eastern Oil Co.'s No. 1 Rudd, Wm. Steele Sur. ..... S.D. 1,550 ft.
R. E. Nash et al's No. 1 Henderson, G. L. Bledsoe Sur. ..... S.D. 3,485 ft.

MARION COUNTY

Baunoch Dev. Co.'s No. 1 Miller, 725 ft. N, 1,470 ft. E, SW cor. H. Fulgram Sur. (was Gist, Claunch & Dodson) ..... S.D. 4,580 ft.
Geo. Hindeman et a's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E, most easterly W line, Alexander Albright Sur. ..... S.D. 2,380 ft.
Purcell et al's No. 1 Coker, M. Reed Sur. ..... S.D. 1,957 ft.
Starling & Preston's No. 1 Henderson, R. Bennington Sur. H. R. S. ..... Drlg. 1,800 ft.

PANOLA COUNTY

Carter-Skidmore et al's No. 1 C. J. Wooten et al, 785 ft. N, 185 ft. E, SW cor. C. J. Wooten tract in P. Martin Sur. ..... Location.
Root-Skinner's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur. ..... S.D. for D.S. 740 ft.
J. L. Nelson et al's No. 1 J. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr., James Hanks Sur. ..... S.D. 3,055 ft.

SHELBY COUNTY

J. H. Francis' No. 1 John Mims, Mary Smith Sur. ..... Tested dry 2,842 ft; drlg. 3,380 ft; W.O.
General Minerals Co.'s No. 2 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. D. S. Height Sur. ..... S.D.; repairing rig 3,630 ft.
Oil News' No. 1 Pickering, C. H. Patterson Sur. ..... Reaming 3,360 ft.
Neil Lease & Oil Well Synd.'s No. 1 W. P. Harvey, NW cor. W. P. Harvey 130 ac. in W. P. Harvey Sur. ..... Derrick pattern.
Prairie Creek Crude Co.'s No. 1 Ellington, 150 ft. and 200 ft. W from SE cor. 42-ac. tr., J. Burleson Sur. ..... Drlg. 3,420 ft.
Ridgeway et al's No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... S.D. 3,045 ft.
Redberry et al's No. 1 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. Jane Stoddard Sur. ..... S.D. 2,375 ft.
Gray & Dunbar's No. 1 C. A. Hayden, 600 ft. N and W, SE cor. 152-ac. tr. in D. T. F. Yordt Sur. ..... S.D. for wtr. 2,280 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

BOSSIER—BELLEVUE AREA

Company, well, farm name, section and block— Remarks:

H. I. Morgan's No. 2 Smith, 1,520 ft. N, 660 ft. W, SE cor., Sec. 22-19-11 ..... Drlg. red shale 3,060 ft.

CADDO—RODESSA AREA

Ark.-La. P. L. Co.'s No. 1 F. E. Gloyd, 660 ft. E, 100 ft. S, NW cor. NW NE, Sec. 34-23-16 ..... Cmtd. 6⅝-in. 2,290 ft.; T.D. 5,375 ft. in shale.
United Gas Public Service Co.'s No. 1 Levee Board, 1,980 ft. N, 1,320 ft. E, SW cor. Sec. 27-23-16 ..... Began drlg. Nov. 25; cmtd. 12½-in. 375 ft.

CADDO—BETHANY AREA

Calatex O. & G. Co.'s No. 1 Mrs. E. Augurs, 3,567 ft. N, 2,600 ft. E, SW cor., Sec. 19-16-16 ..... Began drlg. Nov. 18; cmtd. 9-in. 224 ft.; drlg. 2,170 ft.

CADDO—BLANCHARD AREA

Nick Barbare's No. 1 Puckett, 330 ft. S, 150 ft. W, NE cor., Sec. 6-18-16 ..... Drlg. 1,700 ft.
Louana O. & G. Co.'s No. 1 Carrie et al, 1,320 ft. W, 660 ft. S, NE cor. SE, Sec. 32-19-16 ..... Rig up.
Louana O. & G. Co.'s No. 1 Waskom, 660 ft. N and E, SW cor. Sec. 29-19-16 ..... Set 10-in. 50 ft.

CLAIBORNE PARISH—SUGAR CREEK

United Gas Public Service Co.'s No. 1 Stevenson-Kilpatrick et al, 1,870 ft. W, 1,070 ft. N SE cor. Sec. 1-19-6 ..... Location.

DESOTO PARISH

Abernathy et al's No. 1 J. M. Nabors, 2,485 ft. E, 1,185 ft. N, SW cor. Sec. 32-13-11 ..... Cmtd. 8¼-in. 1,177 ft.; T.D. 1,326 ft.

MOREHOUSE PARISH

Amalgamated Carbon Co.'s No. 4 Cole, 3,300 ft. N, 3,253 ft. W, SE cor. Sec. 7-19-4e ..... Location.

OUACHITA PARISH

Amalgamated Carbon Co.'s No. 4 Cole, 330 ft. N, 325 ft. W SE cor. Sec. 7-19-4 ..... Rig up.

RICHLAND PARISH

Pelican Nat. Gas Co.'s No. 2 Noe, 1,320 ft. N, 660 ft. W, SE cor. SW, Sec. 11-17-5e ..... Cmtd. 6-in. 2,290 ft.; bailing to test; T.D. 2,387 ft.

SABINE PARISH—ZWOLLE

Abbott & Rankin's No. 1 Nulten, 330 ft. S and E, NW cor. SE NE, Sec. 2-7-13 ..... W.O.S.R. 2,397 ft.

Alexander & Mason's No. 1 R. C. Cooper, 330 ft. S, 297 ft. E, NW cor. NE Sec. 31-8-11 ..... Cmtd. 6-in.; top marl 2,384 ft.

Jule Alford's No. 1 Stoker, 312 ft. N and W, SE cor. NE SW, Sec. 10-7-11 ..... S.D. 2,620 ft.

J. H. Askew's No. 2 Henderson, 400 ft. S, 150 ft. E, NW cor. SW SE, Sec. 21-8-10 ..... Derrick.

J. H. Askew's No. 2-E McNeely, 65 ft. S, 100 ft. W, NE cor. SE NE, Sec. 14-7-11 ..... W.O.S.R. 2,658 ft.

J. E. Bailey's No. 1 Les Lites, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 28-8-11 ..... Location.

Baird Bros.' No. 2 Martinez, 1,012 ft. S, 907 ft. E, NW cor. NW SW, Sec. 2-7-13 ..... Tested dry 2,410 ft; arranging to deepen.

Baird Bros.' No. 1 Tatum, SW NE Sec. 25-8-12 ..... Derrick.

Baird, Stone & McFaddin's No. 1 Duggan, 150 ft. S and W, NE cor. SE, Sec. 14-7-11 ..... W.O.S.R. 2,637 ft.

C. W. Beene et al's No. 1 Cutrer, 200 ft. N and E, SW cor. NW, Sec. 13-7-11 ..... Derrick.

Bridges & Clark's No. 4 Williams, 60 ft. N, 250 ft. W, SE cor. NE SW, Sec. 33-10-12 ..... Tested small show oil 3,270 ft; fsh. 1 joint; T.D. 3,280 ft.; chalk.

W. Brumley's No. 1 fee, 330 ft. N and W, SE cor. NW NW Sec. 2-7-11 ..... Rig up.

Cameron Oil Co.'s No. 1 G. Martinez, 345 ft. E, 540 ft. N, SW cor., Sec. 2-7-13 ..... Set 10-in. 41 ft.

Capitol-Crescent Oil Co.'s No. 1 Sabine State Bank, 990 ft. E, 338 ft. N, SW cor. NW SW, Sec. 2-7-13 ..... Derrick.

T. B. Carpenter's No. 1 Cutrer, 330 ft. S and E, NW cor. SE, Sec. 13-7-11 ..... Began drlg. Nov. 3; cmtd. 10-in. drlg. 2,385 ft.

Colonial Oil Co.'s No. 2 Williams, 1,045 ft. S, 310 ft. E, NW cor. SE NW Sec. 13-7-11 ..... Began drlg. Nov. 17; cmtd. 10-in. 42 ft.; drlg. 2,120 ft.

Continental Drlg. Co.'s No. 1 Leone est., 70 ft. N, 200 ft. W, SE cor., Sec. 31-8-12 ..... Derrick.

Craig et al's No. 1 Pouder, 330 ft. N and E, SW cor. SE NW, Sec. 15-7-11 ..... Derrick.

Crescent Drlg. Co.'s No. 1 Peters, 330 ft. N and E, SW cor. SE SW Sec. 2-7-11 ..... Bailing to test; T.D. 2,615 ft.

Crescent Drlg. Co.'s No. 1 Garner Est., 330 ft. S, 330 ft. E NW cor. NE Sec. 4-7-11 ..... Moving in rig.

Edwards & Hubler's No. 1 G. Martinez, 510 ft. S, 280 ft. E, NW cor. SW SW, Sec. 2-7-13 ..... Derrick.

V. R. Hammons et al's No. 1 Travis, 540 ft. N, 150 ft. E, SW cor. NW SE, Sec. 13-7-11 ..... S.D. black shale 2,435 ft.

D. D. Holcomb's No. 2 Quayhagiew, 149 ft. N, 200 ft. E, SW cor. SE SE, Sec. 11-7-11 ..... W.O.S.R. 2,652 ft.

E. L. Hunt's No. 2 Livingston, 330 ft. S and E, NW cor. SW NW Sec. 9-7-11 ..... Began Nov. 18; cmtd. 10-in. 40 ft.

H. M. Jones' No. 1 Raines, 300 ft. S, 150 ft. W, NE cor. NW NW, Sec. 14-7-11 ..... Cmtd. 6-in. 2,396 ft; T.D. 2,410 ft.

Loring Oil Co.'s No. 21 Bowman-Hicks, 450 ft. S, 275 ft. E, NW cor. SW NW, Sec. 16-7-12 ..... Drlg. lime 5,204 ft.

Magnolia Pet. Co.'s No. 1 Cooper, 250 ft. S, 250 ft. W, NE cor. Sec. 30-8-11 ..... Show gas 2,216 ft; arranging to bail 800 ft.; fluid; T.D. 2,414 ft.

H. C. Moulding's No. 1 Brumley, 330 ft. N, 330 ft. E SW cor. NW NW Sec. 2-7-11 ..... Derrick.

L. M. McDuffin's No. 1 Chadick, 300 ft. N, 275 ft. E, SW cor. NE SE, Sec. 31-8-10 ..... W.O.S.R. 2,481 ft.

Paul Miller's No. 2 Chaddick, 109 ft. N, 330 ft. E, SW cor. SE NW Sec. 32-8-10 ..... Drlg. 1,780 ft.

C. D. Neff, tr.'s No. 2 Snell, 400 ft. E, 330 ft. N, SW cor. SE SE, Sec. 9-7-11 ..... Began Nov. 20; cmtd. 10-in. 41 ft.; drlg. 1,400 ft.

E. F. Neely's No. 5 Ponder, 530 ft. S, 870 ft. W, NE cor. Sec. 16-7-11 ..... Began drlg. Nov. 9; cmtd. 10-in. 21 ft.; drlg. 2,300 ft.

E. F. Neely's No. 6 Ponder, 450 ft. N, 150 ft. W SE cor. SW NW Sec. 15-7-11 ..... Derrick.

T. E. Nix's No. 1 W. M. Cooper, 104 ft. S and E, NW cor. Sec. 30-8-11 ..... Began drlg. Nov. 26; cmtd. 10-in. 40 ft.

Nowlin & Cherry's No. 1 Turner, 109 ft. N, 330 ft. W, SE cor. Fractional NW NW Sec. 4-7-11 ..... Location.

H. L. Patton's No. 1 Ponder, 330 ft. N and W, C, Sec. 15-7-11 ..... Began drlg. Nov. 9; cmtd. 10-in. 21 ft.; drlg. 1,800 ft.

Pelican Nat. Gas Co.'s No. 9 Sabine Lbr. Co., 200 ft. N and E, SW cor. NE SW, Sec. 2-7-13 ..... W.O.S.R. 2,400 ft.

Pelican Nat. Gas Co.'s No. 2 Buckley, 330 ft. N and W, SE cor. SW SW, Sec. 31-8-10 ..... Cmtd. 6-in. 2,418 ft; W.O.S.R. 2,502 ft.

Pelican Nat. Gas Co.'s No. 17 La. Long Leaf, 330 ft. S and E, NW cor. NE NW, Sec. 31-8-11 ..... Cmtd. 6-in. 2,183 ft.

G. N. Pharis, Tr.'s No. 1 Cutrer, 990 ft. S, 330 ft. E, center Sec. 13-7-11 ..... Derrick.

T. L. Phillips et al's No. 1 Haley, 330 ft. S and E, NW cor. NW SE, Sec. 6-7-12 ..... Derrick.

Picayune Oil Co.'s No. 1 Porter, 330 ft. N and W, SE cor. NW SW Sec. 30-8-11 ..... Began drlg. Nov. 21; cmtd. 10-in. 40 ft.; drlg. shale 1,300 ft.

Sam Riggs, tr.'s No. 1 Darby, N half SE Sec. 21-7-11 ..... Derrick.

Ritchie Prod. Co.'s No. 1 Byrd, 503 ft. N, 359 ft. W, SE cor. NE NW, Sec. 1-7-11 ..... Comp. pumping 50 bbls. 2,465 ft.

Rotary Oil Corp.'s No. 1 Hale, 330 ft. S and E, NW cor. SW Sec. 1-7-13 ..... Derrick pattern.

W. H. Rowe et al's No. 1 Cutrer, 330 ft. N and E, SW cor. NE, Sec. 13-7-11 ..... W.O.S.R. 2,612 ft.

C. T. Ruffin's No. 1 Lilly, 545 ft. S, 200 ft. W, NE cor. NW NW, Sec. 8-7-11 ..... Show oil; bailed dry; W.O. 2,376 ft.

Scully & Beach's No. 4 Lafitte, 225 ft. E, 197 ft. S, NW cor. SW NW, Sec. 13-7-11 ..... Derrick.

Scully & Beach's No. 5 Lafitte, 413 ft. S, 190 ft. W, NE cor. SW NW, Sec. 13-7-11 ..... Arranging swab through tubing 150 ft. in oil; T.D. 2,492 ft.

E. M. Self's No. 2 Henderson, 335 ft. N and E, SW cor. SE SE, Sec. 21-8-10 ..... Top marl 2,446 ft; cmtd. 6-in. 2,448 ft; bailing to test 2,450 ft.

Service Drlg. & Royalties Corp.'s No. 2 Smith, Sec. 12-7-11 ..... Derrick.

Simmons et al's No. 1 Fleming, E½ SE SE, Sec. 11-8-13 ..... Rigging up.

Scully & Beach's No. 3 Lafitte, 1,020 ft. S, 134 ft. E, NW cor. Sec. 13-7-11 ..... W.O.S.R. 2,492 ft.

F. E. Stancill's No. 1 Pouder, 273 ft. S, 337 ft. E, NW cor. NE SE Sec. 10-7-11 ..... S.D. 2,593 ft.

State Prod. Co.'s No. 1 Keazele, 150 ft. N and W, SE cor. NW SW Sec. 2-7-13 ..... W.O.S.R. 2,427 ft.

State Prod. Co.'s No. 1 Lites, 150 ft. S and W, NE cor. SE SW Sec. 28-8-11 ..... Derrick.

State Prod. Co.'s No. 1 Sabine Lbr. Co., 305 ft. N, 100 ft. W, SE cor. NW SW Sec. 2-7-13 ..... S.D. 2,427 ft.; 1,000 ft. oil.

The Texas Co.'s No. 5 Stille, 330 ft. N, 1,080 ft. E, SW cor. Sec. 33-8-11 ..... Cmtd. 6-in. 2,180 ft.; top marl 2,205 ft.; T.D. 2,216 ft.

E. M. Thomasson's No. 1 W. & H. Andries, 500 ft. N, 150 ft. W, center Sec. 33-7-11 ..... Location.

J. H. Watt et al's No. 1 Pouder, 300 ft. S, 135 ft. W, NE cor. NW NE Sec. 15-7-11 ..... Derrick.

B. R. White et al's No. 1 Stille, 630 ft. W, 205 ft. N, SE cor. NE SW Sec. 35-8-12 ..... Drlg. 1,205 ft.

Arkansas

UNION COUNTY—URBANA

Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-18-16 ..... Derrick.

Wilson & Chapman's No. 2 Emily King, Sec. 3-18-13, 150 ft. S, 150 ft. E, NW cor. NE NE ..... S.D. 1,730 ft.

East Texas

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. .... S.D. 3,359 ft.

Mississippi

HINDS COUNTY

United Gas Public Service Co.'s No. 1 Ed Fondren, 330 ft. E, 660 ft. S, center Sec. 24-6-1e ..... Rig up.

RANKIN COUNTY

J. A. Baker et al's No. 2 Rankin Side Dev. Co., Sec. 6-5-2e ..... Location.

J. A. Matson et al's No. 1 Warner, 1,100 ft. S, 200 ft. W, NE cor. W½ SE Sec. 14-5n-1e ..... Waiting on csg. 2,477 ft.

Wildcat Operations in Mississippi

AMITE COUNTY

Company, well, farm name, section and block—	Remarks:
Magnolia State O. & G. Co.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e	S.D. 400 ft.

CLARKE COUNTY

F. X. Gowans et al's No. 1 Elfring, SE NE Sec. 13-1n-14e	S.D. 104 ft.

HINDS COUNTY

Cleve Love's No. 2 Security Realty Co., 1,855 ft. N, 782 ft. E, SW cor. Sec. 36-6-1e	Began Nov. 21; drlg. sand 650 ft.
Love & Lancaster's No. 1 Elton Plantation, C SE Sec. 17-4n-1e	Drlg. Eutow (Blossom) 4,673 ft.
National Gas Co. of Miss.' No. 1 M. C. Halder, 160 ft. E, 660 ft. N, SW cor. Sec. 16-6n-1e	S.D. for csg. 810 ft.

JASPER COUNTY

B. B. Jones' No. 1 Bank of Philadelphia, 660 ft. N and W, SE cor. Sec. 35-3n-12e	Drlg. sandy shale 2,950 ft.

LAMAR COUNTY

Chas. W. Gorr et al's No. 1 Jordan, NW cor. SW Sec. 1-2n-15w	Derrick.
Stauffer & Kouri's No. 1 Bond, SE NE Sec. 18-2n-14w	D.S. stuck 3,026 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec.	S.D. 2,200 ft.

MONROE COUNTY

P. J. McAlpine's No. 1 Rye, Sec. 22-15s-17w	S.D. 1,777 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE Sec. 25-6n-11e	S.D. gumbo 2,357 ft.

RANKIN COUNTY

Home Oil Prod. Corp.'s No. 1 So. Jackson Land Co., 85 ft. S, 130 ft. W, NE cor. NW NW Sec. 23-5n-1e	S.W. and abd. 2,500 ft.
Love Pet. Co.'s No. 2 Int. Lbr. Co., 450 ft. S and E, NW cor. Sec. 28-6n-2e	T.A. 2,657 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e.	Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9	S.D. 750 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Hensley, Sec. 15-21-11	Cored Tuscaloosa 1,800 ft; S.D.

WILKINSON COUNTY

Foster Creek Oil Co.'s No. 1 Foster Creek Lbr. Co., Sec. 12-2n-2w	Derrick.

Wildcat Operations in Alabama

LAMAR COUNTY

(Cable tools)

Company, well, farm name, section and block—	Remarks:
DeSoto O. & G. Corp.'s No. 1 Gardner, NW NW Sec. 22-15s-16w	S.D.; shale 3,300 ft.

MOBILE COUNTY

J. C. Prine et al's No. 1 M.&O.R.R., Sec. 23-2n-4w	D.S. struck 3,800 ft.

WASHINGTON COUNTY

South Ala. O. & G. Co.'s No. 1 Wilson, Sec. 26-7n-1w	Drlg. chalk 2,375 ft.

Gulf Coast Fields and Wildcats

(Continued from Page 54)

BARBERS HILL—CHAMBERS COUNTY

R. E. Ferrell's No. 2 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-acre tract ..... T.D. 3,000 ft. in shale; fishing.

Humble Oil & Ref. Co.'s No. 1 Kirby, Henry Griffith League, 208 ft. from S line and 100 ft. from E line of lease ..... Salt 1,423 ft.; cmtd. cavity.

Mills Bennett Prod. Co.'s No. 1-C Gulf Fee, Wm. Bloodgood Sur., 150 ft. N of Gulf's No. 1 Fisher Fee ..... Spudded.

Mills Bennett Prod. Co.'s No. 3 Means, Henry Griffith League, 200 ft. W of No. 4 ..... Drlg. salt and shale 4,399 ft.

Mills Bennett Prod. Co.'s No. 5 Kirby, Henry Griffith League, 400 ft. from W line and 41 ft. from S line of tract ..... Drlg. salt 2,072 ft.

D. B. McDaniels' No. 6 Wilburn, Henry Griffith League, 240 ft. W of No. 5 ..... Cap rock 955-64 ft.; losing returns.

Moody Corp.'s No. 1 Ilfrey (W.O.), Henry Griffith League, NW cor. of lease ..... T.D. 5,308 ft.; set 56 ft. of 1½-in. screen 5,302 ft.; pumping oil and water.

Sinclair Prairie Oil Co.'s No. 2 Smith (W.O.), W. D. Smith Sur., 39 ft. from N line and 50 ft. from E line of 30-acre tract ..... Rig up to work over 5,674 ft.

Sinclair Prairie Oil Co.'s No. 13 Wilburn, Henry Griffith League, 150 ft. W of No. 11 ..... Spudded.

Sun Oil Co.'s No. 15 J. Wilburn, Wm. Hodges Sur., 343 ft. from N line and 420 ft. from W line lease ..... Drlg. surface clay 217 ft.

The Texas Company's No. 3 Lawrence fee, Henry Griffith League, 740 ft. W of E line in C of tract ..... T.D. 1,336 ft. in cavity; cmtd. hole to 1,074 ft.; drlg. cement.

The Texas Company's No. 2 Wilburn (W.O.), Henry Griffith League, 70 ft. from N line and 330 ft. from E line of tract ..... Reset 47 ft. of 3-in. screen 5,311 ft.; comp. pumping 37 bbls. fluid, 80 per cent b.s. and water.

The Texas Company's No. 9 Wilburn, Henry Griffith League, 550 ft. E of NW cor. and 50 ft. S of N line ..... Cap rock 879 ft.; cmtd. 13⅜-in. csg. on bottom.

Texas Gulf Prod. Co.'s No. 4 Ilfrey, Henry Griffith League, 594 ft. from E line in C of tract ..... Set 44 ft. of 7-in. screen 4,034 ft.; comp. flowing 800 bbls. P.L. oil, ¾-in. choke, 140 lbs. pressure.

Texas Gulf Prod. Co.'s No. 11-A Kirby, Henry Griffith League, 1,090 ft. from W line and 225 ft. from S line of "A" lease ..... Set 42 ft. of 5-in. screen 5,922 ft.; flowing small volume fluid, 2 per cent oil.

Texas Gulf Prod. Co.'s No. 2 T. H. McLean, Henry Griffith League, 711 ft. from E line midway between C. Barber and McLean tracts on separating line ..... Heaving shale 5,315 ft.; plugged to 3,420 ft.; drlg. sidetracked and drlg. shale and lime 3,568 ft.

Texas Gulf Prod. Co.'s No. 12-H Kirby, Henry Griffith League, 429 ft. W of No. 8-H and 65 ft. N of S line ..... Drlg. gumbo and shale 852 ft.
Texas Gulf Prod. Co.'s No. 3 Tarbutton, Henry Griffith League, 746 ft. from E line in C of tract ..... Drlg. salt 1,394 ft.
Texas Gulf Prod. Co.'s No. 2 O. K. Wintrey, W. D. Smith Sur., 295 ft. N of SW cor. of A. E. Barber lease and 100 ft. W of E line of Winfrey lease ..... Rock 5,723 ft.; D.P. stuck.
Yount Lee Oil Co.'s No. 4-A Zadie Fisher, Wm. Bloodgood Sur., 301 ft. from W line and 96 ft. from S line of tract ..... T.D. 6,643 ft.; sidetracking shale and lime 5,896 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 16 Mayes, E. H. R. Wallis Sur. 1,425 ft. N and 1,429 ft. E of No. 1 Lost River ..... Drlg. shale with streaks of sand 4,618 ft.

BLUE RIDGE—FORT BEND COUNTY

Frank Mean's No. 1 Blakely, 250 ft. from W line and 50 ft. from N line of Blk. 9, Sec. D, E. Drew Sur. ... Spudded.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 34 Moore, Mark Smith Sur. ..... Sidetracking 1,556 ft.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 2 Edwards & Riggins, Samuel Kennedy Sur. ..... Drlg. shale and lime 2,178 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 5 Meyers, J. Rabb Sur., 1,000 ft. W and 250 ft. N of SE cor. of Meyers 188-acre tract ..... Sand and shale 4,983 ft.; cmtd. 7-in. csg.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 7-A F. I. Booth, Samuel Kennedy Sur. ..... Comp. 50 bbls. per hour, ½-in. choke, 5,250 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 8-A F. I. Booth, Samuel Kennedy Sur. ..... Drlg. shale and lime 3,537 ft.
Humble Oil & Ref. Co.'s No. 9-A F. I. Booth, Samuel Kennedy Sur. ..... Spudded.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 3-A George, J. Rabb Sur., 1,000 ft. from W line and 250 ft. from S line of tract ..... Drlg. sticky shale 1,255 ft.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 4-A George, J. Rabb Sur. ..... Derrick.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 6 Lockwood, 4,000 ft. E and 323 ft. N of SW cor. ..... Comp. 65 bbls. per hour, ¾-in. choke, 550 lbs. on tubing, 5,300 ft.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 7 Lockwood & Sharp, J. Rabb Sur. ..... Derrick.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 11-A Lockwood & Sharp, J. Rabb Sur. ..... Location.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 7-B Lockwood & Sharp, J. Rabb Sur., 850 ft. E of No. 6.. Drlg. sticky shale 5,009 ft.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 8-B Lockwood & Sharp, J. Rabb Sur., 1,000 ft. from N line and 500 ft. from E line of 938-acre "B" lease ... Sandy shale showing hole 5,281 ft.; cmtd. csg.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 9-B Lockwood & Sharp, J. Rabb Sur., 850 ft. E of No. 7.. Derrick.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 10-B Lockwood & Sharp, J. Rabb Sur., 1,750 ft. from E line and 400 ft. from S line of 938-ac. lease ..... Derrick.
Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 1 Th. A. and O. H. Wolters, Robt. Peebles Sur., 325 ft. S and 500 ft. W of NE cor. of 1,000-ac. tract ..... Derrick.
Humble Oil & Ref. Co.'s No. 2 Gubbels, Samuel Kennedy Sur., 550 ft. from S line and 350 ft. from W line of 100-ac. lease ..... T.D. 1,230 ft.; cmtd. 10-in. csg. 1,187 ft.
Naylor et al's No. 1 Whitmore, Samuel Kenedy Sur., 467 ft. N of S line in C E and W of Lot 7 (20 acres) .... Sandy shale showing oil 5,265 ft.
The Texas Company's No. 3 Wolters, Samuel Kennedy Sur., 750 ft. N of No. 2 and 300 ft. W of E line ..... Sand showing oil 5,162-72 ft.; cmtd. 7-in. csg. 5,150 ft.; drlg. plug.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 30 Cade (W.O.), N. Fitzsimmons Sur. ..... Drlg. shale 5,600 ft.
Yount Lee Oil Co.'s No. 32 Cade, N. Fitzsimmons Sur., 600 ft. due S of No. 30 ..... No report.
Yount Lee Oil Co.'s No. 1 Mathais fee, 150 ft. from S line and 192 ft. from E line of 23.44-acre tract in Sarah Reeves Subd., Martin Dunman Sur. ..... Salt 3,236-3,347 ft.
Yount Lee Oil Co.'s No. 13 Smith, Martin Dunman Sur., 600 ft. W of No. 12 in line with Nos. 11 and 13 .... Salt 3,848-4,620 ft.

ARIOLA—HARDIN COUNTY

Gulf Prod. Co.'s No. 1 Kirby, Ariola, 330 ft. out of SE cor. of 100-ac. tract, Ariola Sur. ..... Drlg. shale 6,502 ft.
Houston Oil Co.'s No. 1-Y Ariola fee, 5,610 ft. from W line and 5,610 ft. from N line of Ariola Sur. ..... Drlg. sand and lime 4,716 ft.
Houston Oil Co.'s No. 1-Z Ariola fee, 2,000 ft. from W line and 5,610 ft. from N line of Ariola Sur. ..... Drlg. sand 4,059 ft.
Republic Prod. Co.'s No. 2 Ariola fee, Ariola Sur., 660 ft. due E of Gulf's No. 1-A Kirby ..... D.P. stuck 5,980 ft.; abnd.
Republic Prod. Co.'s No. 3 Ariola fee, Ariola Sur., 660 ft. due S of Gulf's No. 1-A Kirby ..... Derrick.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 91 Jordit ..... Drlg. sand and shale 974 ft.

SOUR LAKE—HARDIN COUNTY

Houston Prod. Co.'s No. 1 Merchant, Stephen Jackson Sur., 1,226 ft. from S line and 90 ft. from E line of lease ..... Drlg. salt 4,200 ft.
M. M. Miller's No. 1 Libbie Oil Co., Stephen Jackson Sur., 1,380 ft. NW of Houston Prod. Co.'s No. 1 Merchant ..... Derrick.

HUMBLE—HARRIS COUNTY

J. D. Clay's No. 5 Bender, R. Dunman Sur., 525 ft. from S line and 203 ft. from E line of 100-acre tract ..... Sand and shale 1,105 ft.
Sun Oil Co.'s No. 59 River, R. Dunman Sur., 74 ft. from E line and 1,441 ft. from S line of block ..... Drlg. sand and shale showing oil 1,115 ft.
Sun Oil Co.'s No. 65 River, R. Dunman Sur., 2,122 ft. from S line and 371.6 ft. from E line of lease ..... Set 1 jt. screen 1,335 ft.; comp. flowing 200 bbls. daily.
E. M. Wilson's No. 1 Wheeler & Pickens, Block 20, 40 ft. N of S line and 75 ft. E of W line of Blk. 20, J. B. Stevenson Sur. ..... Abnd. in cap rock 1,889 ft.

MYKAWA—HARRIS COUNTY

Leon Wilkerson's No. 1 Irwin, Wm. Lovett Sur., 300 ft. N of Humble's No. 1 Irwin ..... Rigging up.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 25-A Settegast, 625 ft. W and 525 ft. N of SE cor. "A" lease, Jas. Kopman Sur. No. 44 ..... T.D. 4,620 ft.; milling out to sidetrack 4,009 ft.
Rio Bravo Oil Co.'s No. 26-A Settegast, J. Kopman Sur., 1,210 ft. from N line and 750 ft. from E line of "A" lease ..... Drlg. shale 4,693 ft.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 6 Burrell, Wm. Smith Sur., 1,610 ft. N and 300 ft. E of SW cor. of 232-acre tract .... Sand 4,910 ft.; D.P. stuck.
Lowrie & Young's No. 1 Junker, Wm. Smith Sur., 125 ft. N and 100 ft. E of Gulf Prod. Co.'s No. 1 Junker in 260-acre tract ..... Drlg. lime and shale 2,112 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 2 Davis (W.O.), David Kokernut Sur., 300 ft. from E line and 100 ft. from S line of tract ..... Coring 3,620 ft.
Cranfill & Reynolds' No. 5 Esperson (W.O.), M. Duncan Sur., 100 ft. N line and 300 ft. E line ..... D.S. stuck 6,844 ft.; sidetracking 2,700 ft.
Cranfill-Reynolds Co.'s No. 9 Moore's Bluff, M. Duncan Sur., 500 ft. S of N line of Moore's Bluff tract in line with No. 6 Davis and No. 6 Moore's Bluff ..... Location.
Cranfill-Reynolds Co.'s No. 10 Moore's Bluff, M. Duncan Sur., 1,500 ft. from E line and 2,100 ft. from N line of 632-ac. tract ..... Drlg. 5,240 ft.

HULL—LIBERTY COUNTY

Carpenter & Parr's No. 2 Antilley, Jesse DeVore Sur., 821 ft. W and 250 ft. S of NE cor. of 20-acre lease.. Derrick.
Empire G. & F. Co.'s No. 34 Barngrover, Jesse DeVore Sur., 75 ft. out of SW cor. of lease ..... Sand 4,764 ft.; D.S. stuck.
W. B. Flynn's No. 1 Ray (W.O.), Jesse DeVore Sur. .... Pumping 50 bbls. net oil 2,049 ft.
Gulf Coast Dev. Co.'s No. 3 Finley, Jesse Devore Sur., 135 ft. W of No. 1 and 51 ft. S of N line of lease.... Pumping 19 bbls. net oil.
Gulf Prod. Co.'s No. 30 Phoenix (D.D.), Jesse DeVore Sur. ..... Drlg. sand 3,534 ft.
Hannah Oil Co.'s No. 1 Hannah, Jesse DeVore Sur., 100 ft. W of The Texas Co.'s No. 1 Hannah ..... No report.
Lynd & Rowe's No. 1 Noble & Lynd, Jesse DeVore Sur., 137 ft. out of SE cor. 5-acre tract ..... No report.
Porter & Baggett's No. 1 Baggett, Jesse Devore Sur., 50 ft. from W line and 50 ft. from S line of 171-acre tract ..... No report.
Republic Prod. Co.'s No. 95 Dolbear (W.O.), Jesse DeVore Sur. ..... No report.
Republic Prod. Co.'s No. 147 Dolbear, Jesse DeVore Sur., 256 ft. W of No. 131 ..... Comp. 240 bbls. P.L. oil, ⅝-in. choke, 150 lbs. on tubing, 2,221 ft.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 1 Keystone Mills, Lemuel Smith Sur., 466 ft. from E line and 1,398 ft. from N line .. Drlg. shale 4,132 ft.
Alpha Oil Co.'s No. 1-C South Texas Dev. Co., T.&N.O. Sur. No. 13, 450 ft. from N line and 350 ft. from W line of 60 acres ..... Rig.
Amerada Pet. Corp.'s No. 1 South Texas Dev. Co., C. A. West Sur., 350 ft. from N line and 466 ft. from W line of lease ..... Rig.
Gulf Coast Drlg. & Prod. Co.'s No. 1 South Texas Dev. Co., T.&N.O. Sur., 4,500 ft. E of No. 1 Keystone Mills.. Drlg. shale 4,551 ft.
W. B. Hamilton's No. 2 Moorehead, L. A. Lang Sur., 466 ft. from N line in C E and W of 40-acre tract ..... Set 60 ft. of 5-in. (O.D.) screen 5,110 ft.; comp. flowing 50 bbls. per hour, ½-in. choke.
Harrison & Abercrombie's No. 1 O. L. Alexander, John McHorse Sur., 530 ft. from W line and 350 ft. from N line of 100-acre tract ..... Drlg. shale 3,998 ft.
Harrison & Abercrombie's No. 2 Alexander, John McHorse Sur., 964 ft. E of No. 1 or 1,535 ft. from W line and 391 ft. from N line of tract ..... Derrick.
Harrison & Abercrombie's No. 30 L. Alexander, John McHorse Sur., 300 ft. from N line and 195 ft. from E line of 100-ac. lease ..... Derrick.
Cooper-Rutherford Oil Co.'s No. 3 Hooper, I.&G.N. Sur., Abst. 649, 782 ft. S of No. 2 in center of tract E and W ..... Drlg. shale 3,075 ft.
Humble O. & R. Co.'s No. 3 Dobbins, Ransom House, 700 ft. S from NW cor. lease and 460 ft. easterly at right angles ..... Spudded.
Humble Oil & Ref. Co.'s No. 4 Dobbins, Ransom House Sur., 1,064 ft. E of No. 2 and 466 ft. N of S line ..... Derrick.
Humble Oil & Ref. Co.'s No. 5 Dobbins, Ransom House Sur., 1,050 ft. E of No. 4 and 350 ft. N of S line of lease ..... Location.
Humble Oil & Ref. Co.'s No. 6 Dobbins, Ransom House Sur., 466 ft. from E and S lines of lease ..... Location.
Humble Oil & Ref. Co.'s No. 1-C Cartwright, John Davis Sur., 550 ft. from S line and 350 ft. from W line of lease ..... Location.
Humble Oil & Ref. Co.'s No. 2-C Cartwright, John Davis Sur., 550 ft. from S line and 300 ft. from E line of "C" lease ..... Location.
Humble Oil & Ref. Co.'s No. 1-D Cartwright, John Davis Sur., center of 20-ac. "D" lease ..... Derrick.
Humble Oil & Ref. Co.'s No. 1 Emory, W.C.R.R. Sur., Sec. 13, 466 ft. from S line and 380 ft. from W line... Spudded.
Humble Oil & Ref. Co.'s No. 2 Emory, W.C.R.R. Sur., 2,100 ft. from S line and 350 ft. from E line..... Derrick.
Humble Oil & Ref. Co.'s No. 1 Gallemore, John Davis Sur., NE offset J. Papadakis' No. 1 McDonald..... Drlg. sandy lime 974 ft.
Humble Oil & Ref. Co.'s No. 1 Hirsch, D. McIntyre Sur., 450 ft. E of W line in C N and S of 40-acre tract ... Comp. flowing 120 bbls. per hour, ½-in. choke, 700 lbs. on tubing, 5,148 ft.
Humble Oil & Ref. Co.'s No. 1-B Hirsch, D. McIntyre Sur., 350 ft. from S line and 450 ft. from W line of "B" lease ..... Derrick.
Humble Oil & Ref. Co.'s No. 2-B Hirsch, D. McIntyre Sur., 450 ft. out of NW cor. "B" lease..... Location.
Humble Oil & Ref. Co.'s No. 2 Madeley, Ransom House Sur., 466 ft. southwesterly along southernmost SE line from SE cor. of tract and 466 ft. northwesterly at right angles ..... Comp. flowing 59 bbls. per hour, ½-in. choke, 5,164 ft.
Humble Oil & Ref. Co.'s No. 3 Madeley, 650 ft. E and 650 ft. S of SW cor. of M. W. Real Sur., in Ransom House Sur. ..... Comp. flowing 87 bbls. per hour, ½-in. choke, 5,149 ft.
Humble Oil & Ref. Co.'s No. 4 Madeley, Ransom House Sur., 1,000 ft. N of No. 2 and 1,000 ft. W of No. 1... Coring sand showing oil 5,135 ft.
Humble Oil & Ref. Co.'s No. 5 Madeley, Ransom House Sur., 960 ft. S of No. 3 ..... Spudded.
Humble O. & R. Co.'s No. 1 J. W. McDonald, John Davis Sur., 150 ft. S of N line of 56.55-acre tract, and direct offset James Papadakis' No. 1 McDonald.. Comp. 103 bbls. per hour, ½-in. choke, 600 lbs. on tubing.
Humble Oil & Ref. Co.'s No. 2 McDonald, John Davis Sur., direct offset No. 1-B Cartwright ..... Derrick.
Humble Oil & Ref. Co.'s No. 1 A. Moorehead, Treviathan Sur., 466 ft. from N line, due S offset No. 2 Madeley.. Drlg. shale 2,447 ft.
Humble Oil & Ref. Co.'s No. 1 E. Moorehead, L. A. Lang Sur., 466 ft. from N line in the center E and W of tract ..... Drlg. sticky shale 2,120 ft.
Humble Oil & Ref. Co.'s No. 22 South Texas Dev. Co., Theo Slade Sur., 333 ft. SW of SE cor. of Alex McCown Sur., thence 500 ft. S at right angles ..... Comp. 95 bbls. per hour, ½-in. choke, 5,153 ft.
Humble Oil & Ref. Co.'s No. 23 South Texas Dev. Co., Theo. Slade Sur., 660 ft. N of No. 9 and 350 ft. E of E line of Gulf Coast Drlg. & Dev. Co.'s 60-acre tract.. Comp. 81 bbls. per hour, ½-in. choke, 5,181 ft.
Humble Oil & Ref. Co.'s No. 24 South Texas Dev. Co., Theo. Slade Sur., 1,520 ft. W and 765 ft. S of NE cor. of survey ..... Spudded.
Humble O. & R. Co.'s No. 25 South Texas Dev. Co., Theo. Slade Sur., 849 ft. S of No. 21 ..... Drlg. shale 788 ft.
Humble Oil & Ref. Co.'s No. 26 South Texas Dev. Co., 1,200 ft. S of SE cor. of Gulf Coast D. & D. Co.'s "B" lease ..... Comp. 99 bbls. per hour, ½-in. choke, 5,169 ft.
Humble Oil & Ref. Co.'s No. 27 South Texas Dev. Co., T.C. Howell Sur., 950 ft. NE of No. 23 and 950 ft. W of No. 14 ..... Drlg. shale 3,439 ft.
Humble Oil & Ref. Co.'s No. 28 South Texas Dev. Co., 1,450 ft. from S line and 900 ft. from W line of T. C. Howell Sur. ..... Location.
Humble Oil & Ref. Co.'s No. 29 South Texas Dev. Co., 1,900 ft. from S line and 1,300 ft. from E line of T. C. Howell Sur. ..... Location.

Humble Oil & Ref. Co.'s No. 20 South Texas Dev. Co., 466 ft. N of S line Theo. Slade Sur., north offset Tidal Oil Co.'s No. 2 Lewis ..... Spudded.
Humble Oil & Ref. Co.'s No. 21 South Texas Dev. Co., 350 ft. N of S line Theo. Slade Sur., N offset Tidal Oil Co.'s No. 4 Lewis ..... Spudded.
Humble Oil & Ref. Co.'s No. 22 South Texas Dev. Co., 1,300 ft. from S line and 4,800 ft. from E line of Theo. Slade Sur. ..... Location.
Humble Oil & Ref. Co.'s No. 23 South Texas Dev. Co., 1,300 ft. from S line and 4,000 ft. from E line of Theo. Slade Sur. ..... Location.
Humble Oil & Ref. Co.'s No. 1-B South Texas Dev. Co., C. T. Darby Sur., 450 ft. W of E line of Sur., due W offset No. 1-A Hirsch ..... Location.
Humble Oil & Ref. Co.'s No. 2-B South Texas Dev. Co., C. T. Darby Sur., due W offset No. 2 Emory ..... Location.
Humble Oil & Ref. Co.'s No. 3-B South Texas Dev. Co., C. T. Darby Sur., due W offset No. 2-B Hirsch ..... Drlg. shale 936 ft.
Humble Oil & Ref. Co.'s No. 2-A Alexander, J. McHorse Sur., 350 ft. from the E line in the C N and S of 25-acre tract ..... Drlg. hard sand 4,022 ft.
Humble Oil & Ref. Co.'s No. 1-B Alexander, John McHorse Sur., 599 ft. S and 363 ft. E of NW cor. of Alexander "B" lease ..... Sand showing oil 5,095 ft.
Humble Oil & Ref. Co.'s No. 1-C Alexander, John McHorse Sur., 577 ft. E of W line of survey in C N and S of 20-acre tract ..... Sand showing oil 5,154 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 1-D Alexander, John McHorse Sur., 577 ft. E of W line in C N and S of 20-acre "D" lease ..... Derrick.
Humble Oil & Ref. Co.'s No. 2-D Alexander, John McHorse Sur., 466 ft. from E line in center E and W of lease ..... Drlg. gumbo 2,584 ft.
Humble O. & R. Co.'s No. 1-E Alexander, John McHorse Sur., C of "E" lease ..... Sand showing oil 5,075 ft.; cmtd. csg.
Moore & Bruton's No. 2 Hooper, I.&G.N. Sur., Abst. 650, 466 ft. N of S line in C of tract E and W ..... Sand and shale showing oil 5,050 ft.
Navarro Oil Co.'s No. 1 Gallemore, John Davis Sur., 280 ft. from N line and 180 ft. from E line of tract ..... Drlg. shale 1,558 ft.
Neversuch Oil Co.'s No. 1 South Texas Dev. Co., T.&N.O. Sur. No. 5, 466 ft. from S line in center E and W of 90 acres ..... Rig.
Showers & Moncrief's No. 1 Dunn, Wilson Strickland Sur., 466 ft. from N line and 350 ft. from E line ..... Spudded.
Showers & Moncrief's No. 2 Dunn, Wilson Strickland Sur., 900 ft. S of No. 1 ..... Derrick.
Showers & Moncrief's No. 3 Dunn, Wilson Strickland Sur., 990 ft. S of No. 2 ..... Location.
South Gulf Oil Co.'s No. 1 Granger, T.&N.O. Sur. No. 14, 467 ft. out of most westerly NW cor. of 117-acre tract ..... Drlg. 4,093 ft.
Southland Oil Co.'s No. 2 Cummings, Wilson Strickland Sur., 466 ft. from E line of survey, 934 ft. SE of No. 1 ..... Drlg. sand and shale 320 ft.
Southland Oil Co.'s No. 3 Cummings, Wilson Strickland Sur., 990 ft. S of No. 2 ..... Derrick.
C. C. Steinberger's No. 1 South Texas Dev. Co., T.&N.O. Sur., Abst. 568, 540 ft. from S line in S E and W of 35-acre tract ..... Drlg. shale and shell 4,327 ft.
C. C. Steinberger's No. 2 South Texas Dev. Co., T.&N. O. Sur., Abst. 568, 1,100 ft. from S line in center E and W of 35-acre tract ..... Derrick.
Steinberger, Brown & Wheeler's No. 1 South Texas Dev. Co., T.&N.O. Sur. No. 5, center of S 20 acres of 50-acre lease ..... Spudded.
G. W. Strake's No. 1 Lewis, Chas. Stewart Sur., 1,400 ft. E of W line and 2,200 ft. N of S line ..... Sand showing oil 5,061-85 ft.; cmtd. 7-in. csg. 5,043 ft.
The Texas Co.'s No. 2 Moody, Ransom House Sur., 466 ft. S 15 degrees E and 466 ft. N 75 degrees E from NW cor. lease ..... Drlg. sand 2,846 ft.
The Texas Co.'s No. 3 Moody, Ransom House Sur., S 15 degrees E 1,398 ft. and N 75 degrees 466 ft. from NW cor. of lease ..... Drlg. hard shale 4,303 ft.
The Texas Company's No. 4 Moody, Ransom House Sur., 1,064 ft. E of No. 1 and 466 ft. S of N line ..... Drlg. gumbo and lime 2,574 ft.
The Texas Company's No. 5 Moody, Ransom House Sur., 1,549 ft. frpm E line and 466 ft. from N line of lease.. Derrick.
The Texas Company's No. 6 Moody, Ransom House Sur., 466 ft. from E line and 466 ft. from N line of lease.. Rig.
The Texas Company's No. 7 Moody, Ransom House Sur., 1,396 ft. from N line and 466 ft. from E line of lease.. Location.
The Texas Company's No. 8 Moody, Ransom House Sur., 2,330 ft. from N line and 466 ft. from W line of lease.. Spudded.
The Texas Co.'s No. 1 W. S. Rhodes, Rhodes Sur., 466 ft. from W line and 320 ft. from S line of lease.... Drlg. shale 4,182 ft.
Tidal Oil Co.'s No. 2 Lewis Estate, C. B. Stewart Sur., 467 ft. from N and W lines of Lewis 665.5-acre tract.. Drlg. sand 155 ft.
Tidal Oil Co.'s No. 3 Lewis, C. B. Stewart Sur., 1,500 ft from N line and 466 ft. from E line of lease..... Spudded.
Tidal Oil Co.'s No. 4 Lewis, C. B. Stewart Sur., 2,350 ft. from W line and 450 ft. from N line of lease..... Rig.
Violet & Griffith's No. 1 Mrs. Fannie Hooper, M. DeMoss Sur., 350 ft. S of N line of survey in C E and W .... Comp. 94 bbls. per hour 5,128 ft.
Violet & Griffith's No. 5 Mrs. Fannie Hooper, M. DeMoss Sur., E offset Humble's No. 1 Pfeiffiin, C of tract ... Spudded.
Violet & Griffith's No. 6 Mrs. Fannie Hooper, M. DeMoss Sur., C of survey E and W, due offset Alpha's No. 1 Dunn ..... Comp. 90 bbls. per hour 5,151 ft.
Violet & Griffith's No. 7 Mrs. Fannie Hooper, M. DeMoss Sur., C of tract, E offset Showers & Moncrief's No. 1 Dunn ..... Rig.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 4 Stark, 675 ft. E and 340 ft. N of SW cor. Marshall Beauchamp Sur. ..... Bldg. derrick.

CLAY CREEK—WASHINGTON COUNTY

Clay Creek Oil Co.'s No. 2 Bimage, J. F. Perry Sur., 1,600 ft. from S line and 150 ft. from E line of sur... Coring Queen City 1,112 ft.
Sun Oil Co.'s No. 1 Schulte, J. F. Perry Sur., 204 ft. from NE line and 300 ft. from SE line of tract ..... No report.

SOUTH LOUISIANA FIELDS

JENNINGS—ACADIA PARISH

Olympic Oil Co.'s No. 1 Luckett, 1,150 ft. S and 75 ft. W of NE cor. of Sec. 42-9s-2w ..... Sand 1,760 ft.
Phillips & Artigue's No. 2 Cruse (W.O.), 85 ft. from E line and 60 ft. from N line of tract in Sec. 47-9s-2w.. No report.
Yount Lee Oil Co.'s No. 11 Housierre-Latrielle, 1,010 ft. N and 5,050 ft. S of SW cor. of Sec. 47-9s-2w ..... Drlg. shale 6,950 ft.

DARROW—ASCENSION PARISH

Rio Bravo Oil Co.'s No. 2 Community, Sec. 31-10s-2e, 1,760 ft. S and 600 ft. W of No. 1 ..... Location.
Rio Bravo Oil Co.'s No. 1 Gumbel, 4,000 ft. W and 250 ft. S of NE cor. of S. Gumbel & Co. tract, Sec. 33-10s-2e ..... Rig.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 22 United Land Co., 5,760 ft. N and 1,360 ft. W of SE cor., Sec. 15-10s-4e..... Salt 4,908-29 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Pet. Corp.'s No. 2 Fontenot, Sec. 7-9s-6w, direct E offset Magnolia's No. 2 Waite ..... Spudded.

EDGERLY—CALCASIEU PARISH

The Texas Company's No. 1 Miller Estate, 150 ft. E and 150 ft. S of NW cor. of NE of Sec. 27-9s-11w ..... No report.

LOCKPORT—CALCASIEU PARISH

Lockport Oil Co.'s No. 1 Phoenix ..... D.S. stuck 1,300 ft.; standing.
Magnolia Pet. Co.'s No. 10 Bordages, Sec. 8-10s-9w, 1,001 ft. E and 338 ft. N of SW cor. of lease ..... Derrick.
Magnolia Pet. Co.'s No. 6-A Farquahar, 1,020 ft. E and 150 ft. N of C of Sec. 8-10s-9w ..... Drlg. sandy shale 4,405 ft.
Union Sulphur Co.'s No. 4 Martha Moss, Sec. 8-10s-9w.... Drlg. shale 2,710 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 770 fee, 392 ft. E. 1,243 ft. W of center, Sec. 29-9s-10w ..... Drlg. 5,300 ft.
Union Sulphur Co.'s No. 773 Fee, Sec. 29-9s-10w..... Drlg. gumbo 2,106 ft.
Union Sulphur Co.'s No. 774 fee, 336 ft. W, 114 ft. S of center of Sec. 28-9s-10w..... Sidetracking 3,920 ft.
Union Sulphur Co.'s No. 776 fee, 125 ft. S and 1,490 ft. W of C of Sec. 29-9s-10w ..... Drlg. sticky shale 1,890 ft.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 14 Gray, Sec. 33-10s-12w, 33 ft. W and 30 ft. S of No. 4 ..... Heaving shale 3,056 ft; cut 6-in. liner 1,758 ft; set 38 ft. of 6-in. screen 1,811 ft.; failed to flow; standing.
Wilson-Broach's No. 9 Wilson, Sec. 33-10s-12w, 200 ft. N of No. 3 and 25 ft. E of W line of Strip 7 ..... Rig.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 2 Alliance Trust Co., 699 ft. from N line and 1,460 ft. from W line of Sec. 34-11s-1w .... Sand 4,171-91 ft.; D.S. test showed S.W. and mud with odor of oil.
Pure Oil Co.'s No. 2 Mulvey, Sec. 34-11s-1w, 1,515 ft. from N line and 1,150 ft. from E line of tract ..... T.D. 1,104 ft.; cmtd. 13⅜-in. csg. 1,088 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 29 Watkins, 807 ft. W and 1,184 ft. N of SE cor. of Sec. 13-12s-10w ..... Spudded.
Wilfred Labaye's No. 1 Olevia, Sec. 36-12s-10w, in 3-acre tract ..... Spudded and shut down.
Jim Oil Co.'s No. 10 Irwin, 1,520 ft. N and 845 ft. W of SE cor. of Sec. 13-12s-10w ..... Drlg. gumbo 1,200 ft.
Lackawanna Oil Co.'s No. 1 Ellender, 320 ft. S and 150 ft. E of NW cor. of SE SE of Sec. 21-12s-10w ..... Derrick.
Massert & Cruse's No. 1 J. B. Duhon, 656 ft. S and 325 ft. E of NW cor. of Sec. 26-12s-10w ..... Derrick.
Union Sulphur Co.'s No. 4 Gulf Land-Humble lease, 710 ft. N and 330 ft. W of SE cor. of Sec. 11-12s-10w ... Drlg. shale 5,990 ft.
Union Sulphur Co.'s No. 2 Gulf Land-Pure lease, 1,958 ft. N and 200 ft. W of SE cor. of Sec. 11-12s-10w ... Drlg. sandy shale 6,996 ft.
Yount Lee Oil Co.'s No. 12 School Land, Sec. 15-12s-10w, 200 ft. S of No. 11 ..... Rig.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co.'s No. 3 Gay, 520 ft. S and 200 ft. E of C of Sec. 52-9s-11e ..... Rig.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 6 Wilbert, Sec. 9-11s-12e, 300 ft. out from No. 5 ..... Sand showing oil 5,318 ft.; cmtd. csg.

CAMERON MEADOWS—CAMERON PARISH

Magnolia Pet. Co.'s No. 3 Cameron Meadows, 2,630 ft. S and 1,900 ft. W of NE cor. of Sec. 21-14s-12w.... Drlg. hard sand 2,297 ft.

LEESVILLE—LA FOURCHE PARISH

The Texas Co.'s No. 6 L.L.&E., Sec. 26-21s-22e..... Drlg. gumbo 1,800 ft.

PORT BARRE—ST. LANDRY PARISH

Port Barre Oil Co.'s No. 1 Sibille (W.O.), Sec. 20-6n-5e, 600 ft. S and 124 ft. E. NW cor. of 30-ac. tr. .... Abnd. 3,572 ft.

STARKS—CALCASIEU PARISH

Emerson & Stark's No. 2 Industrial, 400 ft. S of No. 1, in SE cor. NE NW, Sec. 30-9s-12w..... No report.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 12-13s-8w, 300 ft. S 66 deg. 42 min. from No. 9 ..... Drlg. hard sand and lime 3,939 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Bunte, Inc.'s No. 1 Dittert, M. N. Allen Sur., 200 ft. SW and 300 ft. NW from W cor. of Henry Vornkahl 16 acres ..... Rig.
Great Southern Oil Co.'s No. 1 Schevojsa, 329 ft. N, 78° E of N cor. B. Dottery Sur. ..... S.D. 2,848 ft.
Sun Oil Co.'s No. 1 R. W. Theuman, Juan DeLeon Sur., 900 ft. S of N line and 924 ft. E of W line of 125-ac. lease ..... Spudded.
Tibbett et al's No. 1 Heidman, 4,320 ft. SW along NW line from most northerly corner of A. Larrison Sur., thence 405 ft. NW at right angles ..... Derrick.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 1 W. C. Hunt, Pledger, 5,320 ft. from the N line and 6,500 ft. from E line of W. Coirson Sur. ..... Set 23 ft. of 5 3/16-in. screen 6,782 ft.; comp. gas well spraying distillate, 2,675 lbs. pressure, ⅝-in. choke.
John Deering's No. 1 C. W. Chapman, 294 ft. from S line and 104 ft. from E line of Lot 2, Andrew Robinson Sur. ..... Sand rock 5,788 ft.; fishing drill pipe.
Gulf Prod. Co.'s No. 1 American National, E. R. Bradley Sur. No. 12, 7,594 ft. E and 900 ft. N of SW cor. of 1,472-acre tract ..... Drlg. shale 4,812 ft.
Gulf Prod. Co.'s No. 1-B H. P. Lockwood, Wiley Martin Sur. No. 9, 3,024 varas S, 45° W along SE line of Lockwood 536-acre tract from E cor., thence 241 varas NW at right angles from said line ..... Drlg. sand 5,804 ft.
A. D. Parsons et al's No. 1 Hughes, 1,500 varas, NE from W cor. along NW line of A. L. D. Lewis Sur., and 300 varas SE at right angles in Hughes 320-acre tract ..... Drlg. brown shale 4,255 ft.
Tri-fin Oil Co.'s No. 1 Moers, 1,635 ft. southwest of Chocolate Bayou and 693 ft. SE of NW line of F. Moore Sur. ..... No report.

BURLESON COUNTY

Ball & Knob's No. 1 Polansky, M. B. Lawrence Sur., 869 ft. from E line and 469 ft. from N line of 153-ac. tr. ..... No report.
S. M. Bracey et al's No. 1 Bracey, J. Lastly Sur., 880 ft. from E cor. of P. Taylor 110 acres, SE along NE line of J. G. Houston 160 acres, thence 180 ft. at right angles in 3-acre tract ..... S.D. 2,340 ft.
Sampson Oil & Gas Co.'s No. 3 Duckworth & Gilley, P. Singleton Sur., 80 ft. SE of No. 1 ..... No report.
J. E. Stubblefield et al's No. 1 Mitchell, A. T. Woolridge Sur., 81 ft. SW and 4,340 ft. SE of S cor. of Joseph Henson Sur ..... Gumbo 800 ft.; standing.

CHAMBERS COUNTY

Weaver-Ray's No. 1 Fisher, John Tjams Sur., 210 ft. S of Rucker et al's No. 1 Fisher ..... Shut down 1,060 ft.
Yount Lee Oil Co.'s No. 1 Plummer, H.&T.C. Sur. No. 23, 2,340 ft. from N line and 2,640 ft. from W line of section ..... No report.

COLORADO COUNTY

Pilot Oil Co.'s No. 1 Tate, Cooke & DeWeese Sur..... Shut down 1,500 ft.

FORT BEND COUNTY

Lowrie & Young's No. 1 Jackson Brown, Pilant Lake, Wm. Barrett & Abner Harris Sur., 152 ft. E and 158 ft. N out of SE cor. of Humble 182-acre Brown lease in D. Hale 542-acre tract ..... Drlg. sand and shale 320 ft.
Lynch et al's No. 1 Kneitz, 690 ft. from NW line and 350 ft. from SW line of Sec. 43, H.&T.C. Sur. ..... Shut down for repairs 672 ft.
Naylor & DeCosta's No. 1 Naylor, 4,350 ft. N, 55 deg. E from SW cor. 653-acre tract in Christman Sur. ..... T.D. 7,014 ft.; standing.
Paul & Gerke's No 1 Krenek, Gale Borden Sur., 150 ft. out of NW cor. of tract ..... Derrick.

Reisinger et al's No. 1 Joe Sitter, Long Point, T. J. Bell Sur., 150 ft. SW and 150 ft. SE of N cor. of 30-acre tract ..... No report.

GALVESTON COUNTY

Humble Oil & Ref. Co.'s No. 1 Rosenkranz, Green's Bayou, center N half of Lot 10, Sarah White Sur.... Heaving shale 7,119 ft.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur. ..... T.D. 2,689 ft; 6⅝-in. csg. 2,660 ft; bailed csg. and swbd. S.W.; standing.

W. J. Brightwell's No. 1 Combs, Samuel Beauman Sur., 350 ft. from S line and 622 ft. E of extreme W line of 276-acre tract ..... Tested 37 fourbles S.W. 5,016 ft.

Petroleum Southwestern Corp.'s No. 1 Greer Bros., Pat B. O'Connor Sur., 450 ft. S and 200 ft. E of SW cor. of 62-acre tract ..... Derrick.

HARDIN COUNTY

Chas. Paggi's No. 1 Hooks, 200 ft. out of NW cor. of Wm. Slade Sur. ..... Abnd. 1,738 ft.

Joe E. Proctor's No. 1 Russell & Teagle, 3,650 ft. E and 2,777 ft. N of NW cor. of Wm. W. Young Sur..... T.D. 2,685 ft. (corrected); hole heaved in.

Republic Prod. Co.'s No. 1 Ben Andrews fee, 1,140 ft. W of Neches River and 845 ft. N at right angles in van Meter Sur. ..... Drlg. shale and lime 7,170 ft.

Robichaux et al's No. 1 Kirby Lbr. Co., 4,167 ft. W and 2,500 ft. N of SE cor. of Ben Hawkins Sur. ..... Drlg. shale and lime 3,175 ft.

HARRIS COUNTY

T. V. Buckholve & Sons' No. 1 Miller, Arthur McCormick Sur. ..... S.D. 1,310 ft.

Cherry & Pritchard's No. 1 Dr. Griffith, S. Bell Sur., 582 ft. from E line and 60 ft. from N line of 250-acre tract ..... T.D. 756 ft.; cmtd. 10-in. csg 44 ft.

John Deering et al's No. 2 Warren, T. Snell Sur., 100 ft. SW of No. 1 ..... Waiting casing 306 ft.

JASPER COUNTY

Gulf Prod. Co.'s No. 1 Miller Vidor, 2,893 ft. S and 113 ft. E of NW cor. of Sarah Gray Sur. ..... D.P. stuck 6,894 ft.

Houston Oil Co.'s No. 1 Richardson fee, 2,000 ft. S and 3,003 ft. W of NE cor. of Ben Richardson Sur. ..... Drlg. shale 6,428 ft.

Smitherman, Neilson & Noble's No. 1 Cameron, SE cor. of Cameron Lbr. Co. tract, Wm. Jones Sur. ..... Location.

JEFFERSON COUNTY

Coastal Oil Co.'s No. 1 Young, 350 ft. from E line and 160 ft. from S line of 40-acre tract in Blk. F-5, Lot 6, Joseph Grigsby Sur. ..... Shut down 3,440 ft.

Blam & Pipkin's No. 2 Broussard, John McGaffey Sur., 150 ft. due E of No. 1 ..... Shut down 1,855 ft.

Jack Schultz' No. 2 Todd, Cheek, 1,800 ft. S of No. 1 and 180 ft. E of W line of Wm. Carr Sur. ..... Drlg. lime and shale 6,667 ft.

LIBERTY COUNTY

Leon Brisley's No. 1 J. M. Neal, Edward Tanner Sur., 1,800 ft. E, 1,800 ft. N of most westerly NW cor. of Margaret Evans Sur. ..... Shut down 2,768 ft.

Mayes et al's No. 1 Dunman, J. C. Martin Sur., 1,111 ft. from S line of survey and 3,260 ft. W of Trinity River ..... Spudded and shut down.

MATAGORDA COUNTY

Cockburn Oil Corp.'s No. 5 Hawkins, Shepherds Mott, 2,200 ft. SE and 1,800 ft. NE of W corner of Daniel McCarthy Sur. ..... Drlg. hard lime rock 2,979 ft.

Dr. Griffith et al's No. 2 Baer, Big Hill, 5,000 ft. N, 3,000 ft. E from SW cor. of Seth Ingram Sur. ..... Standing 2,720 ft.

Humble Oil & Ref. Co.'s No. 1 Pierce Est., Isaac Foster Sur., 330 ft. from N line and 330 ft. from E line of tract ..... Drlg. sticky shale 3,346 ft.

Rugeley et al's No. 1 Cleveland, E. Hall Sur., 450 ft. E of Cottonwood Creek and 200 ft. N of S line of 60-acre tract ..... No report.

R. L. Sprinkle et al's No. 1 Turner, 4,900 ft. from NE line and 3,800 ft. from SE line of M. Cummings Sur... Derrick.

MONTGOMERY COUNTY

A. H. Parsons et al's No. 2 Drought, Kronknite Sur., 3,000 ft. N and 100 ft. E of NW cor. of A. B. Hill 46⅓ acres ..... Drlg. sticky shale 2,619 ft.

Rheubotham et al's No. 1 A. H. Salis, Wm. Barker Sur., 390 ft. from E line and 400 ft. from N line of W 36 acres of Salis tract ..... Shut down for fuel 540 ft.

Sutton-Hawkins' No. 1 Foster, Hosea de la Garza Sur., 3,333 ft. N and 1,320 ft. E of NE cor. of W. J. Johnson 100-ac. tract ..... Standing 3,349 ft.

NEWTON COUNTY

L. A. James et al's No. 1 Price, T.&N.O. Sur., 1,000 ft. from W line and 500 ft. from N line of tract ..... Drlg. shale 2,099 ft.

ORANGE COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Hurst fee, 2,000 ft. W and 2,200 ft. N of SE cor. of Ed Hurst Sur. No. 15 ..... Drlg. sand 4,992 ft.

R. L. Smith Oil Co.'s No. 1 Miller-Vidor, 750 ft. E and 200 ft. N of SW cor. of J. M. Swisher Sur. No. 3.... Drlg. shale 6,106 ft.

POLK COUNTY

Anderson et al's No. 1 Duke, Peter J. Manard Sur., 330 ft. out of NW cor. of 235-acre tract ..... Shut down 3,948 ft.

Koch & Stevens' No. 1 Ruth Lawrence, Castillian Sur., 300 ft. from W line and 790 ft. from S line of 54-acre tract ..... Shut down 2,600 ft.

Tony & Purdy's No. 1 Martha Roberts, Joaquin T. De Rumayor Sur. ..... Drlg. shale 4,116 ft.

Dick Schwabb and Shell Pet. Corp.'s No. 2 Davis & Holmes, A. Viesca Sur., 485 ft. N and 376 ft. W of NE cor. of J. Duff 35 acres ..... D.S. test 4,438 ft. showed S.W. and oil; plugged to 4,428 ft.; cmtd. 6⅝-in. csg. 4,338 ft.

REFUGIO COUNTY

Gulf Prod. Co.'s No. 2 J. O'Connor (W.O.), C.E.P.I.&M. Co. Sur. No. 40, 1,200 varas from S line and 1,500 varas from E line of tract ..... Pulling screen to deepen 5,115 ft.

Gulf Prod. Co.'s No. 3 O'Connor, C.E.P.I.&M. Co. Sur. No. 133, 6,225 ft. SW along SE line from NE cor. of John O'Connor land, thence 2,639 ft. NW at right angles ..... Derrick.

Humble Oil & Ref. Co.'s No. 3 O'Connor, Florentine Rice Sur., 13,757 ft. from S line at right angles and 3,413 ft. from E line at right angles of 5,545-acre ranch ..... Sand 3,232 ft.; to make drill stem test.

SAN JACINTO COUNTY

Weaver et al's No. 1 Delta Land & Timber Co., 1,400 ft. NE of SW line of James W. Robertson Sur., and 800 ft. at right angles ..... Drlg. shale 500 ft.

TRINITY COUNTY

C. M. Beckner's No. 1 Gibson, Wm. Beasley Sur., 600 ft. S along E line of survey and 150 ft. W at right angles ..... Set 81 ft. of perforated pipe 1,032 ft.; showing gas.

TYLER COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sam Jeffcoat, E. Thompson Sur., 467 ft. N and E from SW cor. of 100-acre tract ..... Derrick.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Kirby, E. Thompson Sur., 467 ft. N and E from NE cor. of Sam Jeffcoat 100 acres ..... Derrick.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sterne fee (W.O.), 8,384 ft. from W line and 484 ft. from N line of Adolphe Sterne Sur. ..... Drlg. shale 5,245 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 3 Keeran Ranch, Martin DeLeon Sur., 1,320 ft. NW of No. 1 ..... Drlg. hard sandy shale 5,205 ft.

Houston Oil Co. and Magnolia Pet. Co.'s No. 1 Beck, I.R.R. Sur. No. 26, 1,000 ft. NE along NW line from most westerly west cor. of Lot D and 600 ft. SE at right angles ..... Heaving shale 5,508 ft.; abnd.

Slick-Seeligson Corp.'s No. 2 McFaddin (D.D.), J. Varian Sur., 1,100 ft. NE of SW line and 635 ft. E of railroad ..... No report.

The Texas Company's No. 5 McFaddin, 1,300 ft. westerly and 300 ft. northerly at right angles from SE cor. of J. A. McFaddin 98-acre Sur. ..... Drlg. sand and shale 3,033 ft.

Union Oil Co.'s No. 2 Keeran, Martin DeLeon Sur., 600 ft. E of E line of Gulf lease and 1,900 ft. N of railroad ..... Making drill stem test 5,440 ft.

WALLER COUNTY

Birdwell et al's No. 1 Robertson, John Baker Sur., 1,625 ft. from S line and 450 ft. from W line of 64-acre tract ..... Derrick.

Hobson et al's No. 1 Joe W. Harris, 3,000 ft. from E line and 5,000 ft. from N line of H.&T.C. Sur. in Harris 1,475-acre lease in Justo Liendo Sur. ..... T.D. 4,857 ft.; sidetracked to 4,487 ft.; S.D.; W.O.

WASHINGTON COUNTY

Yequa Oil Co.'s No. 18 Pomacal, S. M. Williams Sur., 1,282 ft. from W cor. of Shulz 44-acre tract, thence 123 ft. NW at right angles ..... T.D. 1,515 ft.

WHARTON COUNTY

Cullen & West's No. 1 Hawes, G. W. Singleton Sur., 580 ft. NE and 320 ft. SE of W cor. of Hawes' 148-acre tract ..... Drlg. shale 4,765 ft.

Cullen & West's No. 1 J. D. Hudgins, Alexander Jackson Sur., 230 ft. out of S or SE cor. of J. D. Hudgins' 319-acre tract ..... Drlg. shale 4,167 ft.

Gantt et al's No. 1 Laura Hahn, N. Manch Sur., 330 ft. out of NE cor. 142.17-ac. tract ..... T.D. 5,555 ft.; D.P. collapsed.

Dayvault-Tyler-Gardner's No. 1 Dayvault, Wm. Kincheloe Sur., 200 ft. SW and 600 ft. SE of N cor. of 298-ac. tract ..... Derrick.

Smith & Daniels' No. 1 Mitchell, H.&T.C. Sur. No. 5, 330 from NE line of NE 80-acre tract in C of tract NW and SE ..... Coring sandy shale 6,091 ft.

Steed Prod. Co.'s No. 1 Tucker, 210 ft. W and 50 ft. N of NE cor. of 8½ of SW¼ of Sec. 58, E.T.R.R. Sur. ..... Rig.

SOUTH LOUISIANA

BEAUREGARD PARISH

DeRidder Dev. Co.'s No. 1 McMahon, 200 ft. W and 155 ft. S of NE cor. of NW of Sec. 33-2s-9w ..... Standing 1,286 ft.

CALCASIEU PARISH

Cannon & Hughes' No. 1 J. S. Reed, Sec. 18-10s-12w... Derrick.

I. R. Irvine et al's No. 1 A. D. Mimms, 741 ft. N and 741 ft. W of SE cor. SE NE, Sec. 20-9s-7w..... No report.

JEFFERSON DAVIS PARISH

B. D. Finly's No. 1 Clarphy Lognion, SW NW of Sec. 22-10n-4w ..... Spudded and S.D.

LA FOURCHE PARISH

Lechner & Hubbard's No. 1 Lollain, 150 ft. out of SE cor. of NW NW of Sec. 32-18s-22e ..... Spudded.

PLAQUEMINES PARISH

The Texas Co.'s No. 6 Garden Island Bay, 1,848 ft. S and 2,497 ft. W of NE cor. of Sec. 107-23s-32e ..... Blew out 816 ft.; standing.

TERREBONNE PARISH

The Texas Co.'s No. 7 Caillou Island, 300 ft. S and 300 ft. W of NE cor. of Sec. 19-23s-20e ..... Driving piling.

The Texas Company's No. 17 State-Lake Barre, 1,476 ft. W and 626 ft. S of NW cor. of Sec. 20-21s-20e ..... Salt 2,979-4,436 ft.; milled out 1,027 ft. and drlg. sidetracked hole.

The Texas Company's No. 4 Lake Barre-L.L.&E., 3,803 ft. S and 2,075 ft. W of NW cor. of Sec. 30-21s-20e in Sec. 36-21s-19e ..... Anhydrite 2,575 ft.

VERMILLION PARISH

Shell Pet. Corp.'s No. 1 Hebert, 2,310 ft. W and 330 ft. N of SE cor. of Sec. 10-15s-1e ..... Rigging up.

VERNON PARISH

Minerals Division Ilano Co.'s No. 1 Llano Del Rio, 543 ft. E and 300 ft. S of NW cor. of NW of Sec. 34-1n-9w ..... No report.

Wildcat Operations in Southwest Texas

(Continued from Page 55)

BEE COUNTY

Grisham et al's No. 1 Hill, 1½ miles SW of town of Tuleta ..... T.D. 2,300 ft.; drlg.

Nichols & Bruner's No. 1 Grover Heidenfels in John Bryan Sur., 891 ft. from S line, 1,950 ft. from E line of tract ..... T.D. 2,800 ft.; drlg.

BELL COUNTY

James Scoggins' No. 2 Warrick, 1,000 ft. to NW line, 2,400 ft. to NE line of 335-ac. tract in Ingram Sur. .. T.D. 1,432 ft.; fishing.

BEXAR COUNTY

Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio ..... T.D. 1,054 ft.; standing.

S. W. Blount's No. 1-A S. A. Land & Dev. Co., 10 ft. from No. 1 in I. Perez Sur. ..... T.D. 965 ft.; moving in rotary.

Robert C. Hill's No. 1 Schell, 1,300 ft. from N line, 1,100 ft. from W line of 161-ac. tract in Sec. 234, Perretaux Sur. ..... T.D. 836 ft.; set csg.

Rollin V. Hill, Sr.'s No. 1 Max Boeck, 1,700 ft. from N line, 2,700 ft. from E line of tract in J. R. Shepherd Sur. ..... T.D. 398 ft.; S.D.

Dr. Ewell Neil's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur. ..... T.D. 2,495 ft.; in Edwards, dry.

Otis Oil Co.'s No. 1 Bachmeyer, 150 ft. from NE and SE lines of 425 acres in J. Montes Sur. ..... T.D. 600 ft.; fishing.

Jones & Voltz' No. 1 Bonkowsky, 150 ft. to N and W lines of William McMenenes Sur., 12 miles E of San Antonio ..... T.D. 907 ft.; standing.

Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio ..... T.D 1,330 ft.; S.D.

M. E. Trussell's No. 1 L. B. Carruthers, Sr., 2,000 ft. from W line, 400 ft. from most easterly N line of tract in Sam McCullough Sur. ..... T.D. 1,004 ft.; standing.

H. G. Venable's No. 2 F. Dulling, 1,500 ft. W of center of E line of tract ..... Location.

BLANCO COUNTY

H. T. McGee's No. 1 Forbes, cen. Sec. 167 ..... Rigging up.

Hardy Sitton's No. 1 Luders, 150 ft. from S line, 1,420 ft. from E line of James Stanford Sur. ..... T.D. 1,540 ft.; standing.

BROOKS COUNTY

M. P. Evans' No. 1 Amanda Peres, 1,300 ft. from N line, 200 ft. from W line of Sec. 6, La Encantada grant ..... T.D. 1,480 ft.; standing.

CALDWELL COUNTY

Cargill et al's No. 1 Dameron, 150 ft. from N and W lines of 72.5-ac. tract in Dillard Cooper Sur. ..... T.D. 2,018 ft.; comp. pumping 25 bbls. daily.

Louis Crouch's No. 1 Sue Neelan, 1,560 ft. to SE lines, 150 ft. from NE lines of 200-ac. tract in John B. Gray Sur. ..... Location.

J. M. Dickson's No. 1 W. T. Mooney, 7,600 ft. from NE line, 5,200 ft. from SE line of Solomon Seal Sur. ..... T.D. 2,265 ft.; set csg.

E. D. Herne's No. 1 M. C. and P. W. Jeffroy 126-ac. tract, 150 ft. from N and E lines of tract in James George Sur. ..... Set surface pipe, waiting for wtr.

E. L. Hope and Joe Cole's No. 1 M. August, 150 ft. from NE line, 165 ft. from NW line of tract in A. Floyd Sur. ..... Rigged up.
J. W. Kemp's No. 1 George Vickery, 760 ft. from SE line, 200 ft. from NE line of tract in Squire Damon Sur. ..... T.D. 2,100 ft.; plugging back to 1,750 ft.
Noack & Lanning's No. 1 Barber, 150 ft. from S and E lines of 82-ac. tract in Squire Damon Sur. ..... T.D. 2,270 ft.; drlg.
C. J. Webster Oil & Gas Co.'s No. 1 McMahon, 450 ft. to SW of center of NE line of 50-ac. tract in James Pinchback Sur. ..... T.D. 1,550 ft.; had several million ft. gas at 976-985 ft.

COMAL COUNTY

Caldwell and M. Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-acre tract in H.E.&W.T. Sur., Sec. 894 ..... T.D. 948 ft.; standing.

DIMMITT COUNTY

Motes-Campbell Co.'s No. 1 Denton, 150 ft. from E line, 250 ft. from S line of Tracts 33 and 34 in Sec. 60 of Denton Colony Subd. ..... T.D. 1,400 ft.; drlg.

DUVAL COUNTY

Duggan & Smith's No. 2 Sutherland, 330 ft. from S and W lines of Sur. No. 511 ..... T.D. 2,809 ft.; abnd.
Frank Gravis' No. 2 Schallert in Sur. 256 (Palangano salt dome) ..... T.D. 1,653 ft.; standing.
John Hornbeck's No. 1 Duval County Ranch Co., 150 ft. from S and W lines of Sur. No. 281 ..... Clearing location.
J. A. Leindecker's No. 1 G. W. Sutherland, 660 ft. from S line, 450 ft. from W line of Sur. No. 183 ..... T.D. 2,250 ft.; standing.
Payne & Vernon's No. 1 A. Roach, 865 ft. from E line, 45 ft. from S line of Blk. 7, Sur. No. 457 ..... Rigged up.
C. P. Scott's No. 1 J. W. Kidd, 990 ft. from N and E lines of SE of Sur. No. 56 ..... Set surface csg.
Smith & Capps' No. 1 Peters, 330 ft. from S line, 340 ft. from W line of NE of Sur. No. 178 ..... Spudded in.
Stanley Smith's No. 1 C. Pena, 330 ft. from S and W lines of Sur. No. 79 ..... Rigged up.
Sun Oil Co.'s No. 1 Duval County Ranch Co., 1,650 ft. to N and W lines of Sur. No. 78, or 330 ft. to S and W lines of E half of NW of Sur. No. 76 ..... Plugging back to 2,165 ft.
S.R.C. Oil Co.'s No. 1 Duval County Ranch Co., 150 ft. from N line, 4,300 ft. from W line of Sur. 192 ..... Location only.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Halff & Oppenheimer, 1,300 ft. from N line, 200 ft. from E line of W. F. Halsel Sur. ..... T.D. 5,042 ft.; drlg.

GILLESPIE COUNTY

Rod Lagra's No. 1 Stephen, 500 ft. from N and W lines of A.B.&M. Sur. No. 969 ..... Spudded in.

GUADALUPE COUNTY

B. E. Brock's No. 1 Ogletree, 1,600 ft. from W line, 450 ft. from S line of tract in Robert Smith Sur. ..... T.D. 1,890 ft.; standing.
Keene & Russell's No. 1 Lowman, 300 ft. from E line, 350 ft. from N line of tract in George Allen Sur. .. T.D. 380 ft.; standing.
W. A. Scrutchin's No. 1 S. J. Lowman, 170 ft. from N line, 195 ft. from W line of 10-ac. tract, in Blk. 1, Sec. No. 1 of S. J. Barnes Sur. ..... Derrick.
H. A. Suttle's No. 2 Haim, 525 ft. due S of No. 1 Haim in Jos. Kent Sur. ..... T.D. 1,802 ft.; drlg.
J. T. Stover's No. 1 Paul Hoffman, 1 mile SW of Selmar Pool ..... T.D. 2,118 ft.; drlg.
F. W. Tong's No. 1 Henry Rahe, 650 ft. to SW lines, 1,300 ft. to NW lines, Moses Baker Sur. ..... T.D. 1,027 ft.; in Edwards; drlg.
Walton et al's No. 1 Dan Darling, 1,890 ft. from NW line, 1,198 ft. from SW line of Ben Fuqua Sur. ..... Spudded in.

GOLIAD COUNTY

Hoffman & Gooch's No. 1 Fromme, 600 ft. from N and 1,200 ft. from W line of Peter B. Dexter Sur. ..... T.D. 2,470 ft.; standing.

GONZALES COUNTY

Antibus et al's No. 1 James, 6,350 ft. from N line, 1,300 ft. from E line of Mary A. Williams Sur. ..... T.D. 1,247 ft.; coring.
Edmiston & Kirby Pet. Co.'s No. 1 J. W. Ward, Jr., 300 ft. from N line, 833 ft. from W line of tract in Dan McKay Sur. ..... T.D. 1,592 ft.; standing.
A. King's No. 1 F. Ramsinski, 1,021 ft. from N line 1,320 ft. from E line of tract in Gonzales Townsite Sur. ..... Location.
Dave Watson, trustee's No. 1 Cardwell, Byrd Lockhart Sur., 7 miles S Gonzales ..... Moving in tools.

HIDALGO COUNTY

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) ..... T.D. 4,590 ft. S.D.
Palm City Pet. Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. ..... T.D. 1,445 ft.; drlg.
Dayle L. Smith's No. 3 Daskam, SW part of county .... T.D. 1,726 ft.; S.D.

JIM HOGG COUNTY

Clark & Cowden's No. 1 W. Allen, 150 ft. to N and W lines of Sur. 49 ..... T.D. 3,014 ft.; drlg.
Cole Pet. Co.'s No. 1 W. Allen, 990 ft. to E line, 1,320 ft. to N line of Blk. 13, Randado grant ..... Spudded in.
D. C. DeWitt's No. 1 Gomez, 1,110 ft. from N line, 150 ft. from W line of Sur. No. 12, SW part of county T.D. 2,265 ft.; standing.

JIM WELLS COUNTY

Humble Oil & Ref. Co.'s No. 1 Fuhrkin, 1,117 ft. from N line, 450 ft. from W line of 150.77-ac. tract in Phillips Sacks Sur. ..... Rigging up.
F. A. Lain's No. 1 Vernon Porter, 800 ft. from S line, 400 ft. from W line of 200-ac. tract in Sur. 25 ..... T.D. 3,502 ft.; resumed drlg.

KARNES COUNTY

A. E. Edmiston's No. 1 G. W. Cross, 500 ft. from E line, 150 ft. from N line of tract in M. N. Reed Sur. ..... Spudded in.
H. J. Porter et al's No. 1 Ingram, 275-ac., 1,500 ft. from E line, 300 ft. from S line of tract in Carolos Martines Sur. ..... T.D. 3,226 ft.; tested salt water; drlg. deeper.
Tippett & Mull's No. 1 Smith, 8,500 ft. from N line, 200 ft. from E line of Francis Haskins Sur., 3½ miles E of Helena ..... Rigging up.

KERR COUNTY

Eastland Oil Co.'s No. 1-C Jeff Love, 150 ft. from S and E lines of C.C.S.D.&R.G.N.G. Sur. No. 1,595 ..... T.D. 1,150 ft.; drlg.
Evans & Gant's No. 1 Estelle Young, 150 ft. out of NW cor. of Sec. 18, E. A. Burge Sur. ..... T.D. 1,210 ft.; standing.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of James R. Bettner Sur... T.D. 500 ft.; setting csg.
Varde Oil & Gas Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,922 in Hamilton Sur. ..... T.D. 118 ft.; standing.

KLEBERG COUNTY

Harris et al's No. 1 Dennett, 600 ft. from S line, 750 ft. from E line of Blk. 7, Sec. 38, Kleberg Town & Imp. Co. Subd. ..... T.D. 160 ft.; standing.
H. Carter's No. 1 R. H. Simmons, 150 ft. from S and W lines of tract in Sec. 7, King Sur. No. 3. ..... T.D. 3,205 ft.; standing.

LA SALLE COUNTY

Interstate Oil Industries, Inc.'s No. 1 J. F. Mayes, 600 ft. from S and W lines of Blk. 20, L.&G.N. Sur. No. 19 ..... T.D. 2,825 ft.; drlg.

LIVE OAK COUNTY

J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. 27 ..... T.D. 1,100 ft.; waiting for csg
M.W.R. Oil Corp.'s No. 1 Ohlendorff, 649 ft. from NE line, 285 ft. from SE line of Blk. 25, S. G. Irrigation Co. Sur., 3 miles N of Whitsett ..... T.D. 800 ft.; drlg.
C. J. Webster Oil & Gas Co.'s No. 1 O. F. Akers, 200-ac. tract in T. Henry Sur. ..... T.D. 100 ft.; standing.

LEE COUNTY

Paton Bros.' No. 2 Turner, 150 ft. due SE of No. 1-A Turner, junked at 5,675 ft. in the David Hudson Sur., 2 miles SE from Tanglewood ..... Location.

MAVERICK COUNTY

Kivagi Oil Co.'s No. 1, 2½ miles N of Eagle Pass ..... Location.

McMULLEN COUNTY

L. W. Capps' No. 1 Hagist, 1,650 ft. from N line, 2,640 ft. from E line of Sec. 6, J. W. Osborne Sur. ..... Location.
Howeth & O'Neill's No. 1 Roos Bros., 150 ft. from N line, 650 ft. from W line of Sec. 30, Rhodes ranch, Beatty, Seale & Forwood Sur. ..... Location.
Jaqua & Crow's No. 1 Hagist, 330 ft. from N and W lines of R. W. Mills Sur. No. 467 ..... Spudded in.
C. C. Shumway's No. 1 Shiner, 400 ft. from W line, 200 ft. from N line of Blk. 45 of Shumway Subd. of Shiner ranch ..... T.D. 200 ft.; drlg.
Skinner & Bailey's No. 1 Burmeister in SW cor. of Sec. 14, Blk. 1, C.H.&H. Ry. Sur. ..... T.D. 820 ft.; S.D.

MEDINA COUNTY

James E. Greenlee's No. 1 Feasler, 600 ft. from N line and 2,400 ft. from E line of L. G. Harrison Sur. No. 799 ..... T.D. 1,230 ft.; set csg.
Moore, Richey & Clifton's No. 1 Reicherers, 150 ft. from N and W lines of tract, SW of Lacoste ..... Set surface csg.
F. Ryal's No. 1 G. Martin, 150 ft. from S and W lines of Blk. 368, H. Castro Sur. ..... Spudded in and S.D.
W. L. Umburn's No. 4 Jungman, 150 ft. from N line, 450 ft. from E line of tract in N. B. Rogers Sur., No. 33 ..... T.D. 816 ft.; set csg.

MILAM COUNTY

Bridwell's No. 1 Terry, 1,100 ft. from N line, 800 ft. from W line of tract in Jose Leal Sur. ..... T.D. 2,460 ft.; drlg.
Ed Clark's No. 1 Fritchard, 1,100 ft. to SE lines, 700 ft. to NE lines of 163-ac. tract in F. Ernst Sur., 6½ miles NE Thorndale ..... Rigged up.
Glass et al's No. 1 Ellison, 700 ft. from N line, 1,350 ft. from W line of 200-ac. tract in Samuel Frost Sur... T.D. 1,665 ft.; S.D.
Keyser & Roberts' No. 3 Ward, 125 ft. NE of No. 2 Ward, on S. S. Pallin tract in Levi Taylor Sur. ..... T.D. 1,810 ft.; drlg.; previously abnd. at 1,343 ft.
Michaik & Clark's No. 1 Johnson, 60 ft. S of No. 1 Johnson on 100-ac. lease in Juan Jose Acosta Sur..... T.D. 2,216 ft.; abnd.

NUECES COUNTY

Gulf Port Oil Co.'s No. 1 Luby, 2,044 ft. from E line, 2,142 ft. from S line of John M. Luby, 531.74 acres, Blk. 1 of Mary J. Luby Share 1-G of Anna Collins Petronilla pasture, 24 miles SW from Corpus Christi.. T.D. 4,750 ft.; drlg.
Miller et al's No. 1 Harney, 200 ft. from NW line, 1,850 ft. from SW line of 445-ac. tract in Gregoria Farias Sur. ..... Moving in tools.
George Noble's No. 1 Homeland Syndicate, 300 ft. to SE and SW lines of Blk. 8, Sec. 12, 5 miles S Corpus Christi ..... Location.

SAN PATRICIO COUNTY

Chiltipin Oil & Gas Co.'s No. 1 E. H. Welder, 1,750 ft. from N line, 660 ft. from W line of tract in Blk. 5, Portilloc Sur. ..... T.D. 5,270 ft.; drlg.

STARR COUNTY

Adams & Modest's No. 1 Wood, 2,070 ft. from W line of Porcion 84, Camargo, and 1,472 ft. N of Missouri Pacific Railroad ..... Spudded in.
W. P. Chancellor's No. 1 A. Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share 6, of San Jose grant ..... T.D. 600 ft.; drlg.
Hartshorn et al's No. 1 Hebbron, 835 ft. W of Hebbron-Rio road and 2,500 ft. from S line of Porcion 110.... Location.
B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 2,999 ft.; testing.
D. H. Carpenter's No. 1 Salinas, 3,087 ft. from N line, 1,221 ft. from E line of Share 85 of partition of Porcions 38, 39, 40 in Jurisdiction of Reynosa ..... T.D. 2,150 ft.; standing.
Coastal O. & G. Co.'s No. 1 Kelsey Bass, 448 ft. to N line, 150 ft. to W line of Tract 52, Sur. 2, Porcion 86.. T.D. 1,860 ft.; changing to heavier rig.
W. T. Gilman & Travelers Oil Co.'s No. 1 C. Ramos, 1,170 ft. from SW line, 1,470 ft. from NW lines of Sur. No. 150 ..... Spudded in and S.D.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE of NW of Sur. No. 344 ..... TD.. 100 ft.; set surface csg.
Jeffries and Lambeth Drilling Co.'s No. 1 Starr County Cattle Co., 11,572 ft. from N line, 2,490 ft. from E line of Porcion 89, Jurisdiction of Camargo ..... T.D. 1,287 ft.; S.D. for water.
Boyd C. Jones' No. 1 Garza, 2,407 ft. from N and E lines of Share 26, Part. of Porcions 67-72, Jurisdiction of Mier ..... Rigging up.
LaJoya Oil & Gas Co., in Porcion 29, NE part of county.. Location.
A. C. McGahhey's No. 1 Fernandes Bros., 1,800 ft. from W line, three-quarters of a mile from Rio Grande River, in Porcion 99, Jurisdiction of Camargo ..... Spudded in.
D. A. Miller's No. 1 Madrigal, 4,827 ft. to N line, 1,987 ft. to E line of Share 15, Porcions 67, 72, 1 mile NE of Roma ..... T.D. 105 ft.; no report.
John Pope, trustee's No. 2 H. Gonzales, 150 ft. W of cen. of E line of Sur. No. 339 ..... Spudded in.
J. W. Seaward's No. 1 F. Dawson, 495 ft. from W line, 240 ft. from S line of tract in Blk. 6, Share 3-B of Porcion No. 70 ..... Location.
George Stobaugh's No. 1 Seabury et al, 150 ft. from S and W lines of Porcion 107 ..... T.D. 278 ft.; no report.

TRAVIS COUNTY

E. A. Field's No. 1 B. H. Bloor, 150 ft. from S line, 500 ft. from W line of 400-ac. tract in NE part of county.. T.D. 1,195 ft.; abnd.
Franklin et al's No. 1 Reimer, 1,200 ft. from SE line, 1,400 ft. from most southerly SW line of Sur. 35 .. T.D. 220 ft.; S.D.
Fritz Fuch's No. 1 Swedish, 2,350 ft. from NE line, 750 ft. from NW line of Thomas Smith Sur. ..... T.D. 2,056 ft.; abnd.
Fritz Fuch's No. 2 Wm. Smith, 150 ft. from NE line, 750 ft. from NW line of N 113 ac. in L. Kimbro Sur.. Location.

UVALDE COUNTY

J. V. Scoggin's No. 1 Olive Henry, 1,100 ft. from N and E lines of tract in Hugh Kilgore Sur. ..... T.D. 670 ft.; S.D.

WEBB COUNTY

J. W. Edwards' No. 1 M. D. Slator, 1,320 ft. to NE and NW lines of Blk. 72, Slator Subd. of J. V. Borrego grant ..... T.D. 1,200 ft.; drlg.
Turnbull et al's No. 1 Duval County Ranch Co., Blk. 21, Zapata County School Lands, Sur. No. 3 ..... Location.

WILLIAMSON COUNTY

McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract in B. Manlove Sur. ..... T.D. 1,450 ft.; S.D.

ZAPATA COUNTY

Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... Location.
J. W. Brower's No. 1 Uribe, 150 ft. from NW and SW lines of Blk. 8, Share 7, Partition 6 of San Ignacio Subd. of Borrego grant ..... T.D. 1,500 ft.; abnd.
Donohoo et al's No. 1-A Garcia, 150 ft. from NE and SE lines of Blk. 7 of Subd. of 700-ac. of Share A, Charco Redonde grant ..... T.D. 1,085 ft.; standing.
Hamilton, Brower & Crew's No. 1 Slator, 2,111 feet from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... Location.
Huff & Fudge's No. 1 Uribe, 150 ft. from NW and SW lines of Blk. 8, Share 7, Partition 6, San Ignacio Subd. of Borrego grant ..... Taken over by J. W. Brower; abd.
T. J. Murray's No. 1 S. Vela, 285 ft. from NE line, 158 ft. from SE line of Blk. 145, Doty Subd., Share 4, El Grullo grant ..... Derrick.
Phelps, Taegel & Loyendecker's No. 1 Martines, 150 ft. to N and W lines of Blk. 15 of S. T. Phelps, Jr. Subd. "A" of Villa grant ..... T.D. 825 ft.; drlg.

H. L. Sargent et al's No. 1 Antonio Gutierrez heirs, 922 ft. from W line, 472 ft. from S line of Tract 2, Blk. 5, Nixon Subd., Porcion 10, San Ignacio Borrego grant ..... T.D. 1,800 ft.; drlg.

ZAVALA COUNTY

Adair & Daniel's No. 1 Gates, 1,320 ft. from N line, 1,220 ft. from E line of Hooper & Wade Sur. No .13.. T.D. 3,242 ft; drlg.

Southwest Texas Proven Areas

Week Ending December 3

NORMANNA POOL—BEE COUNTY

Company, well, farm name, section and block— Remarks:

Gulf Coast Oil Co.'s No. 5 Hicks, 600 ft. E of Nichols Oil Co.'s No. 2 Hicks ..... T.D. 3,622 ft.; swabbing.

PETTUS FIELD—BEE COUNTY

J. L. Mauldin's No. 2 fee, 945 ft. to S line, 150 ft. to W line of farm, George A. Kerr Sur. ..... T.D. 3,880 ft.; comp. 250 bbls.

J. L. Mauldin's No. 3 fee, 300 ft. S of No. 1 fee, George A. Kerr Sur. ..... Location.

TULETA POOL—BEE COUNTY

C.B.&M. and O'Neill's No. 1 Stoltzfus, 150 ft. from N and W lines of SE of SE of Sec. 2, Ragsley Subd. of Chittim ranch in J. M. Uranga grant ..... Spudded in.

Taber et al's No. 1 Harris, 150 ft. from N and W lines of Blk. 13, Sec. 13, Ragsley Subd. of Uranga grant .. T.D. 4,322 ft.; tested 11 fourbles oil, 4 fourbles mud; setting csg.

The Texas Company's No. 2 Cox, 250 ft. from S and W lines of SE of SW of SW of Sec. 2, Ragsley Subd. of Uranga tract ..... Location.

Titus & Calloway's No. 1 Dirks Bros., 150 ft. from S and W lines of NW of Sec. 2, Ragsley Subd. of Chittim Miller ranch, Uranga grant ..... Location.

Trio Oil Co.'s No. 1 Harris, center NW NE NW of Sec. 13, Ragsley Subd., Chittim Miller ranch, Uranga grant ..... T.D. 4,112 ft.; testing.

Wallace and Bowles' No. 1 Harris, 150 ft. from N line, 250 ft. from E line of Lot 12, Sec. 13 of Ragsley's Subd. of Uranga grant ..... T.D. 4,118 ft.; running tubing.

GAS RIDGE—BEXAR COUNTY

American Gas Co.'s No. 5 W. H. Kennon, 1,750 ft. from S line, 2,000 ft. from E line of 400-acre tract in Maria F. Rodrigues Sur. ..... T.D. 2,230 ft.; standing.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 3 J. H. Gembler, 180 ft. from N and E lines of tract in A. Manachaca Sur. 51. T.D. 1,216 ft.; standing.

E. M. Carl's No. 1 F. Gembler, 160 ft. from N line, 750 ft. from E line of tract in J. Montez Sur. ..... T.D. 825 ft.; standing.

F. H. Eckert & Son's No. 2 Boehner, 800 ft. from N line, 210 ft. from E line of 93-ac. tract in Boquar Sur. ..... Location.

Gatlin Oil Co.'s No. 15 I. A. Beck, 150 ft. from S and E lines of tract in J. Montez Sur. ..... Location.

Johnson Bros.' No. 1 Elsie Janszen, 150 ft. from SW line, 4,000 ft. from SE line of 139-ac. tract in J. Montez Sur. ..... T.D. 300 ft.; drlg.

W. R. Swearingen's No. 11 Halbardier, 400 ft. SE of No. 10 Halbardier, J. F. Perez Sur. ..... Location.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 2-B Walker 46-ac. tract, 360 ft. from NW line, 500 ft. from SW line of tract in Solomon Seal Sur. ..... T.D. 2,372 ft.; 1,500 ft. oil in hole.

SALT FLATS—CALDWELL COUNTY

Hickman et al's No. 1 C. A. Dickerson, 150 ft. N of cen. of S line of tract in John D. Rains Sur. ..... T.D. 2,172 ft.; standing.

NORTH GOVERNMENT WELLS—DUVAL COUNTY

R. B. Byrd's No. 3 Wright, 660 ft. from W line, 330 ft. from N line of Sur. No. 101 ..... T.D. 2,303 ft.; comp. 300 bbls. day.

R. B. Byrd's No. 4 Wright, 1,086 ft. from W line, 330 ft. from S line of Sur. No. 101 ..... Location.

W. T. Daniels' No. 1 F. J. Smith, 330 ft. from N and W lines of SW of NE of Sur. No. 46 ..... T.D. 850 ft.; drlg.

Highland Oil Co.'s No. 4 A. Lundvall, 1,650 ft. from W line, 330 ft. rfom S line of S half of NE of Sur. 42.. Rigging up.

Humble Oil & Ref. Co.'s No. 1 C. W. Hahl, 330 ft. from S and W lines of Sur. No. 74 ..... Set surface csg.

Luse & Russ' No. 2 Hahl, 990 ft. from W line, 330 ft. from N line of SE of Sur. No. 45 ..... T.D. 2,284 ft.; set csg.

Magnolia Pet. Co.'s No. 5 Johnson, 420 ft. from S line, 330 ft. from W line of NW of SE of Sur. No. 44 .... T.D. 2,343 ft.; 20,000,000 gas.

Magnolia Pet. Co.'s No. 1 J. W. Riley, 330 ft. from S and E lines of SE of NW of Sur. No. 45 ..... T.D. 2,347 ft.; 60 bbls. hr.

Magnolia Pet. Co.'s No. 2 T. V. Allen, 330 ft. from N and E lines of S half of SE of Sur. No. 42 ... ... Location.

Magnolia Pet. Co.'s No. 3 White, 330 ft. from N and W lines of Sur. No. 64 ..... Location.

San Diego Oil Corp.'s No. 5 E. Riley, 330 ft. from S and W lines of NW NW of Sur. No. 46 ..... Location.

San Diego Oil Corp.'s No. 2 L. Bennett, 500 ft. N of No. 1, 250 ft. to W line of SE SW of Sur. No. 44.. Location.

San Diego Oil Corp.'s No. 4 E. Riley, 330 ft. from N line, 550 ft. from W line of NW NW of Sur. No. 46.. Location.

Seacord & Putnam's No. 1 Hahl, 330 ft. from S and W lines of N half of NE of Sur. No. 42 ..... Rigging up.

Seacord & Putnam's No. 1 Lundell, 330 ft. from E line, 1,650 ft. from S line of Sur. No. 60 ..... Derrick.

Southwest Drlg. Co.'s No. 4 R. Wendt, 330 ft. from N and E lines of SE SE of Sur. No. 43 ..... T.D. 2,284 ft.; set csg.

The Texas Co.'s No. 1 C. W. Freer, 330 ft. from S and W lines of NE of Sur. No. 45 ... ... Location changed.

The Texas Co.'s No. 2 H. Wendt, 990 ft. from N line, The Texas Company's No. 3 Riggs, 200 ft. from N and E lines of NE of NW of Sur. No. 46 ..... Location.

330 ft. from E line of NW of Sur. No. 42 ..... T.D. 2,257 ft.; comp. 40 bbls. hr.

Whisenant et al's No. 5 C. W. Hahl, 330 ft. from N and W lines of SW or SW of Sur. No. 44 ..... Location.

SOUTH GOVERNMENT WELLS FIELD—DUVAL COUNTY

Humble Oil & Refining Co.'s No. 9 Paul White, 1,320 ft. to W line, 4,950 ft. to S line, Sur. 58 ..... Location.

SARNOSA FIELD—DUVAL COUNTY

Sarnosa Oil Corp.'s No. 4 Well, 330 ft. NW and 660 ft. NE of No. 3 in Sur. No. 130 ..... Rigging up.

Smith & Cappe No. 3-A Duval County Ranch Co., 537 ft. from SE line, 330 ft. from NE line of W quarter of Sur. 574 ..... T.D. 2,467 ft.; set csg. waiting on cement.

Sun Oil Co.'s No. 2 Cuellar (Cano), 150 ft. from SW and SE lines of E quarter of Sur. No. 576..... Rigged up.

SAL-MAR FIELD—GUADALUPE COUNTY

Sal-Mar Oil & Gas Co.'s No. 1 Hempel, 1,600 ft. from S line, 150 ft. from E line of tract in G. W. Williams Sur. ..... T.D. 2,318 ft.; abnd.

A. W. Wormser's No. 1 Harris, 150 ft. from N line of tract and 150 ft. E of creek in Green Dewitt Sur..... Derrick.

HORD'S CREEK—GOLIAD COUNTY

Sam Vanderweiss' No. 1 Kaufman, 3,700 ft. NE of NE line of B. Merrill Sur., 300 ft. NW of NW line of Vincente Ramos Sur. ..... Location.

ALWORTH FIELD—JIM HOGG COUNTY

H. C. Cate's No. 1 B. J. Leyendecker, 70 ft. to E line, 330 ft. to S line, Blk. 10, Sur. 148 ..... T.D. 900 ft.; drlg.

SANDIA POOL—JIM WELLS COUNTY

Crude Oil Royalty Co.'s No. 1 Allen (first carried as Hughes & Long's No. 1 Wade), Cen. Blk. 2, Wade ranch ..... Spudded in; changing rigs.

Larcro Gas & Pet. Co.'s No. 2 Wade, 2,000 ft. S, 33 deg. W of No. 2 Wade, thence 1,970 ft. N, 57 deg. W.... Material on ground.

JACOB POOL—McMULLEN COUNTY

Jacob, Buzzini & Pickett's No. 8-A Jacob, 660 ft. N of No. 2-A Jacob ..... T.D. 1,300 ft.; drlg.

Jacob, Buzzini & Pickett's No. 10-A Jacob 2,540 ft. S of No. 2-A and 843 ft. from E line of Sur. No. 8 .... T.D. 954 ft.; set csg.

Longhorn Oil Co.'s No. 2-A Lark, 660 ft. N of No. 1-A Lark ..... Moving in rig.

WENTZ POOL—McMULLEN COUNTY

V. G. Schimmel's No. 1 Wolfe, 400 ft. from E line, 340 ft. from N line of Sur. 65 ..... T.D. 1,325 ft.; drlg.

ADAMS FIELD—MEDINA COUNTY

Vantis Oil Co.'s No. 1-A Adams, 50 ft. from No. 1 ..... T.D. 200 ft.; drlg.

SAXET FIELD—NUECES COUNTY

Capps and Smith's No. 1 Hutchins, 330 ft. from S and E lines of 80-ac. tract in George Frank Sur. No. 416.. T.D. 2,720 ft.; drlg.

Houston Oil Co.'s No. 1 Walton, 170 ft. from N line, 220 ft. from E line of 500-ac. tract ..... T.D. 5,005 ft.; plugging back to 4,100 ft.

Gibson Oil Co.'s No. 1 Ran Morgan, 330 ft. from S and E lines of E 80 acres of Ran Morgan's 320 acres in B.S.&F. Sur. No. 405 ..... T.D. 4,503 ft.; drlg.

Gulf Port Oil Co.'s No. 1 Isencee, 330 ft. to N and W lines of 300-ac. tract in C. Land Sur. ..... Location.

Gulf Port Oil Co.'s No. 3 Frank Bliss, 1,699 ft. to N line, 350 ft. to E line of 235-ac. tract in J. W. Stevens Sur. No. 406 ..... Location.

Gulf Port Oil Co.'s No. 2 Isencee, 330 ft. from N and E lines of 235-ac. tract in Charles Land Sur. No. 404. T.D. 2,250 ft.; drlg.

Saxet Oil Co.'s No. 9 Dunn, 180 ft. from N line, 164 ft. from W line of lease, south offset to Oso Drillers' No. 2 Roark ..... T.D. 4,081 ft.; drlg. plugs.

O. R. Seagraves' No. 1 Lagasse, 330 ft. from N and W lines of Blk. 22, of H. B. Shepherd farm lots..... T.D. 3,140 ft.; wild and on fire.

Titus & Calloway's No. 1 Lagasse, 2,200 ft. from N line, 2,400 ft. from E line of J. M. Stevens Sur. No. 406... T.D. 4,557 ft.; setting csg.

Titus & Calloway's No. 2 Lagasse, 950 ft. from N line, 400 ft. from E line of J. M. Stevens Sur. No. 406.... T.D. 4,542 ft.; in sand.

Titus & Calloway's No. 3 Lagasse, 330 ft. from N and W lines of E half of Blk. 25 of Shepherd farm lots.. Derrick.

Titus & Calloway's No. 1 Hutchins, 500 ft. from N line, 1,500 ft. from W line of Blk. 19, Shepherd farm lots.. T.D. 4,297 ft.; coring.

Titus & Calloway's No. 1 Ran Morgan, 330 ft. from N and E lines of W 80 acres of E 160 acres of N half of 423 acres of B.S.&F. Sur. No. 403 ..... Derrick.

LOS OLMOS POOL—STARR COUNTY

Austin et al's No. 1 Kelsey Bass, 150 ft. to N and W lines of NW of NW of Sur. 4, Porcions 75, 76, 77, Jurisdiction of Camargo ..... Rigging up.

Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. to S and E lines of SE of NW of Sur. 3, Porcions 75, 76, 77 ... Rigging up.

Goodwin & Yantis' No. 1 Seabury, 150 ft. from N and E lines of N 80 ac. of Share 5, W portion of Porcion 75, Camargo ..... Location.

J. E. Harper & Co.'s No. 1 E. Salinas, 150 ft. to S and E lines of 40-ac. tract in Share 16, Por. 75 ..... T.D. 100 ft.; standing.

Hornaday-Porter's No. 1 Kelsey Bass, 150 ft. from S and W lines of NW NE Sec. 7 of Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo ..... T.D. 458 ft.; abnd.

Keck & Keane's No. 2 Kelsey Bass, 150 ft. from N and W lines of NE NE Sec. 6 of Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo ..... Rigged up.

Los Olmos Oil & Gas Co.'s No. 42 Kelsey Bass, 450 ft. from E line, 420 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.

Los Olmos Oil & Gas Co.'s No. 43 Kelsey Bass, 750 ft. from E line, 420 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.

Los Olmos Oil & Gas Co.'s No. 44 Kelsey Bass, 200 ft. from E line, 120 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.

Los Olmos Oil & Gas Co.'s No. 45 Kelsey Bass, 500 ft. from E line, 120 ft. from N line of SE NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.

Los Olmos Oil & Gas Co.'s No. 46 Kelsey Bass, 800 ft. from E line, 120 ft. from N line of SE NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.

R. McCormick's No. 1 Kelsey Bass, 150 ft. from N line, 300 ft. from E line of SE of SW of Sur. 7, Porcions 75, 76, 77, Camargo ..... T.D. 200 ft.; drlg.

R. A. Mitchell's No. 1 Kelsey Bass, 150 ft. from S and W lines of NW SE of Sur. 8, Subd. Porcions 75, 76, 77, Jurisdiction of Camargo ..... T.D. 212 ft.; standing.

J. P. Moore and C. B. Van Matre's No. 1 Seabury et al, 150 ft. from E line, 750 ft. from S line of Share 5, Subd. of W part of Porcion 75 ..... T.D. 305 ft.; standing.

Munday Bros.' No. 1 Seabury, 840 ft. from E line, 4,550 ft. from S line of Share 5, Subd. of W two-thirds of Porcion 75, Jurisdiction of Camargo ..... Dropped, duplication.

C. L. Sinclair's No. 2 Kelsey Bass, 150 ft. to S line, 1,050 ft. to W line of SW of SW of Sur. 5, Porcions 75, 76, 77 ..... T.D. 434 ft.; showing oil.

Tollen, Floyd & Warner's No. 1 Seabury, 450 ft. from S line, 814 ft. from E line of 80-ac. tract in Share 5, W part of Porcion 75 ..... T.D. 389 ft.; set csg.

Wells et al's No. 1 Lensgraf, 150 ft. from N and E lines of SW of SW of Sur. 7, Porcions 75, 76, 77, Camargo ..... T.D. 387 ft.; drlg.

RIO GRANDE CITY POOL—STARR COUNTY

Mundy and others' No. 1 Salines, 190 ft. to S and W lines of Blk. 12, Share C-38, Porcions 80 and 81, Camargo ..... T.D. 1,460 ft.; standing.

Sioux Oil Corp.'s No. 1 Doyno, 475 ft. from W line, 559 ft. from S line of Blk. 4, Share 77-A of Porcions 79, 80, 81, Camargo ..... T.D. 1,150 ft.; drlg.

LAUREL POOL—WEBB COUNTY

Dyck Oil Co.'s No. 1 Garcia Villareal, 150 ft. from E line, 150 ft. from N line of NE of NW of Sur. No. 1,100 ..... Rigging up.

Montex Oil Co.'s No. 1 B. Rosenberg, 150 ft. to S and W lines of Blk. 5, Sur. 271 ..... T.D. 2,240 ft.; set csg.

Newton Drilling Co.'s No. 1 A. Garcia, 2,550 ft. from S line, 2,340 ft. from W line of Sur. No. 52, 2 miles SW of Carolina Texas Field ..... T.D. 2,080 ft.; drlg., shows oil.

Sal-Mar Oil Corp.'s No. 1 Vela, 660 ft. from NW and SW lines of Blk. 16, Sur. No. 1,011 ..... Location.

South Texas Oil Co.'s No. 2 State of Texas, 644 ft. from N line, 150 ft. from W line of Blk. 10, Sur. No. 270.. T.D. 2,264 ft.; comp. 500 bbls. day.

South Texas Oil Co.'s No. 3 State of Texas (Laurel), 450 ft. from W line, 374 ft. from N line, Blk. 10, Sur. No. 270 ..... T.D. 2,269 ft.; comp. 1,000 bbls. daily.

CAROLINA-TEXAS POOL—WEBB COUNTY

Foster Barnsley's No. 2-F Webster, 165 ft. from N and E lines of SE of NW of Sur. No. 684 ..... T.D. 2,588 ft.; rigging up to deepen.

SCHOTT POOL—WEBB COUNTY

O. W. Killam's No. 1 W. Breckenridge, on line between Blks. 9 and 11 and 680 ft. from E line of Blks. 9 and 11 in Sur. No. 771 ..... T.D. 1,783 ft.; set csg.

ESCOBAS POOL—ZAPATA COUNTY

Allied Oil & Gas Co.'s No. 12 Gutierrez, 3,663 ft. from SE lines, 750 ft. from NE lines of Share 4, Comitas grant ..... T.D. 100 ft.; standing

The Texas Co.'s No. 16 Measles, Cerrito Blanco grant ... T.D. 1,198 ft.; 50 bbls.

John Ward's No. 1 M. Garza estate, 150 ft. from NW and NE lines of Blk. 31, Douglas Subd. of Zorro ranch, Comitas grant ..... Location.

MARTINEZ POOL—ZAPATA COUNTY

H. Muckelroy, Jr.'s No. 1 A. Trevino, 150 ft. from S and E lines of Blk. 10, Sur. No. 411 ..... T.D. 2,372 ft.; abnd.

MIRANDO VALLEY POOL—ZAPATA COUNTY

Newton et al's No. 1 Flores, 200 ft. from W line, 1,200 ft. from N line of Sur. No. 249 ..... T.D. 1,260 ft.; drlg.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Carbon Compounds of Oil and Gas Offer Field for Research

Is it true that hydrocarbon chemistry, or the chemistry of petroleum and natural gas, is looked upon as an almost untouched field for investigation?—J. R. W.

There has been comparatively little done in the preparation of new substances from the pure hydrocarbons, so abundant in natural gas and petroleum. Much progress has been made in recognizing many of the compounds that are either present in the gas and oil or are formed when these substances are heated. The chemist has found the aromatic compounds of coal tar a rich and profitable field for synthesis. The unsaturated hydrocarbons are now yielding alcohols and other compounds. One of the most promising of these is ethylene, and this will serve to indicate the possibilities in this particular field.

Dr. J. G. Davidson of the Carbide & Chemicals Corp. recently spoke in Boston before the northeastern section of the American Chemical Society, when he directed attention to the chemistry of the paraffins.

The future of industrial organic chemistry lies in the commercial development of the aliphatic compounds, of which ethylene forms the basis, Doctor Davidson asserted. American chemical companies, he said, can compete successfully in world markets with these products, because natural gas and petroleum, the necessary raw materials, are easily available in large quantities in the United States. New compounds are continuously being discovered and put to use.

"There are others which we are not quite ready to announce yet," he added. "We don't like to talk about them until we are ready to make them commercially available.

"Heretofore such aliphatic compounds as existed in large quantities have been made by natural fermentation, but the agricultural products used as raw materials for this process are seasonal in character and extremely unstable as to price. The aliphatic hydrocarbons—that is, natural gas and petroleum—have the advantage of being stable in price and almost unlimited in supply.

"The field of aliphatic chemistery is practically a closed book, and new developments in chemistry are coming there. It is pre-eminently an American development, because of our large supply of easily obtainable raw material. We are making more progress in this direction than the chemists of any other nation in the world."

Doctor Davidson discussed several new commercial uses for asphaltic compounds, and reviewed some that have now become of prime importance to science and industry.

"Ethylene oxide, boiling slightly under room temperature, is an excellent fumigant for certain insect pests, especially in foods such as nuts, raisins, etc.," he continued. "Although not markedly toxic to human beings, its toxicity to insects is as great as that of hydrocyanic acid. Ethylene oxide as a fumigant is not so unpleasant to use as sulphur dioxide, and not so explosive as carbon disulphide.

"Methyl cellosolve, due to its speedy dissolving of cellulose nitrate, is being used as a moisture-proof cellophane adhesive. Although having no tacky properties itself, it softens the moisture-proof coating. The cellosolves containing a residual alcohol group can be esterified. Thus, cellosolve acetate is considered the best 'blush resister' in the lacquer industry.

"Ethylene dichloride, the hydrochloric acid ester of glycol, is one of the most stable of the chlorinated solvents. Being an excellent oil and grease solvent, it is used as such by the leather and textile industries."

Causes for Formation of Emulsions When Treating

What is the cause for the formation of bad emulsions which sometimes form when treating gasoline but more often with kerosene that has been acid treated? What is the best way for preventing and breaking these emulsions?—B. L. E.

Emulsions may result when treating petroleum products from several causes, but are most frequently related to the compounds produced when washing with alkali. These substances include complex compounds of sulphuric acid that oil soluble, such as sulphonic compounds and the naphthenic acids. These combine with sodium, magnesium and calcium to form soaps which help to make emulsions. Gurwitsch-Moore, Petroleum Technology, page 358, state: "Kerosene has a tendency to form solid emulsions composed of bubbles but to a less degree than raw gasoline. Such emulsions are sometimes . . . so solid that they may be cut with a knife. Such emulsions are not often met with in kerosene because the soaps reduce the surface tension of kerosene to a less degree than that of gasoline; in the second place because the content of naphthene soaps in the kerosene distillate is generally insignificant, and finally because the volume of alkaline solution in the neutralization of kerosene is very much smaller than that of the distillate."

Emulsion may be of two types; oil in water or water in oil. Some substances, oil soluble, act to lower the surface tension of the oil and then the water particles may be distributed throughout the oil. Others, water soluble, tend to lower the surface tension of the water and aid in keeping the oil suspended in the water.

Overtreatment with sulphuric acid, either by addition of excessive quantities of acid, too rapid addition of the acid, too vigorous agitation, or improper temperatures, is responsible for a large part of the emulsification of stocks that have been acid treated. Stocks that have not been acid treated, such as straightrun gasoline and some kerosene, will emulsify due to the formation of a soap, resulting from a combination of the mineral elements in the wash water and the derivitives of sulphur or naphthenic bodies naturally present in the oil and produced by the reaction.

Relatively high temperatures, just below the initial boiling point, during treating and the alkali washing are considered good practice, as explained by Gruse, Petroleum and Its Products, page 134: "This serves to lower the viscosity of the oil phase markedly, facilitating separation, decreases the size of the colloidally suspended soap particles and raises the surface tension at the oil-water interface. It is also probable that certain of the sulphonic acids formed during the acid treatment, which are known to be excellent emulsifiers, are decomposed at this temperature (the boiling point)."

Steaming, settling, addition of sodium sulphate, or sulphuric acid are used for breaking emulsions. Strong alkaline solutions for treating are to be avoided because the soaps cannot go into solution. Sometimes the wash water must be purified or softened in a manner similar to the treating of boiler feed waters.

Determination of Paraffin in Asphalt and Road Oil

We have trouble in getting good checks when determining paraffin in road oil by the Holde method and wish to know if you know of a more reliable method.—D. C. T.

The Library Bulletin of Abstracts, 7, 173, 1932 (October 26), gives in abstract "A New Method for Determining Paraffin in Asphalts," by Muller and Wandes, from Asphalt u. Teer Strassenbautecknik, September 7, 1932, page 708, which involves separation of the oils and asphalt resins from the paraffin by dissolving in pyridine. This method should be applicable to road oil.

At 0° C. (32° F.), 100 c.c. of pyridine dissolves less than 0.1 g. of paraffin. Along with the oils and resins, the pyridine dissolves the asphaltenes in part. They should be separated first of all, with the carbenes, carboids, coke, and mechanical impurities, as the residue left undissolved after treating the sample with naphtha distilling between 30 and 40° C. (86 and 104° F.). The portion dissolved in naphtha is freed from the solvent on the water bath and taken up with pyridine added in the proportion of 15 c.c. per gram of asphalt. The pyridine solution is cooled to 1° C. (34° F.) and allowed to stand in ice for a half hour. The paraffin is filtered off with gentle suction in a cooled filter. It may be purified of resins by dissolving in hot benzol and treating with active charcoal and bleaching earth.

Results for paraffin estimated by the method outlined above are easily reproduced.

Principles Involved in Manufacture of Asphalt from Petroleum

I would like very much to have a description of the principles and operations involved in the manufacture of asphalt from petroleum, by both atmospheric and vacuum distillation. —W. H.

A large part of the asphalt produced from petroleum is obtained as a secondary product in the distillation of petroleum. Since petroleum is a complex mixture of numerous substances, many of the compounds differing in boiling points only to a small degree, the essential purpose of the distillation step in petroleum refining is that it shall be controlled so that a maximum yield of the several products will be obtained. It is the object of the refiner to separate each of the products so that there will be no serious contamination with closely related products. Repeated distillations of the same fraction are necessary when it is desired to produce a product with a narrow boiling point range and to produce a residue of some selected composition.

The original shell still operation yielded products of wide boiling point ranges which had to be redistilled to obtain fractions of the desired quality, but the modern pipe still, with the bubble plate tower, is arranged for continuous operation and the tower makes a series of redistillations so that a closer division is obtained and each product finished in the one operation. The residue is drawn off continuously. The difficulty to be overcome when making asphalt is to avoid the presence of oily constituents, which under atmospheric conditions may condense and run back into the residue, and this is taken care of very well when the separation takes place in the presence of steam or under vacuum.

Steam reducing is practiced in the shell still operation. The heavy oil is brought to about 400° F. over fire then live steam is introduced at the bottom through perforated coils. The steam serves to reduce vapor tension, reduces the boiling point, removes the freshly formed vapors, and keeps the oil in motion so that there is no local overheating and formation of coke.

The continuous operation through a pipe still and vacuum tower is considered to be the more economical. In this the oil is heated in the tubes to a temperature well above the boiling point of the fractions to be taken off. The hot vapors are released into a vaporizing drum from which the vapors are removed by vacuum and steam to a tower. The vaporizing drum may be a separate unit but in some installations it is the lower part of the tower. The asphalt is drawn off from the bottom.

The reduction in either operation is controlled by some selected viscosity or melting point.

An excellent article covering the technical features of asphalt production may be found in The Oil and Gas Journal, July 14, 1932, page 36, under title, "Asphalt Production Problems," by C. M. Baskin.

The standard reference text is Abraham's Asphalts and Allied Substances, published by Van Nostrand, New York.

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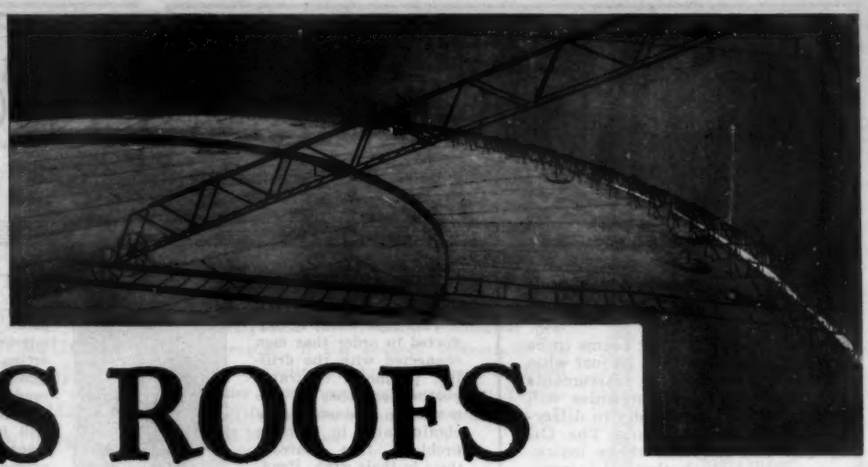
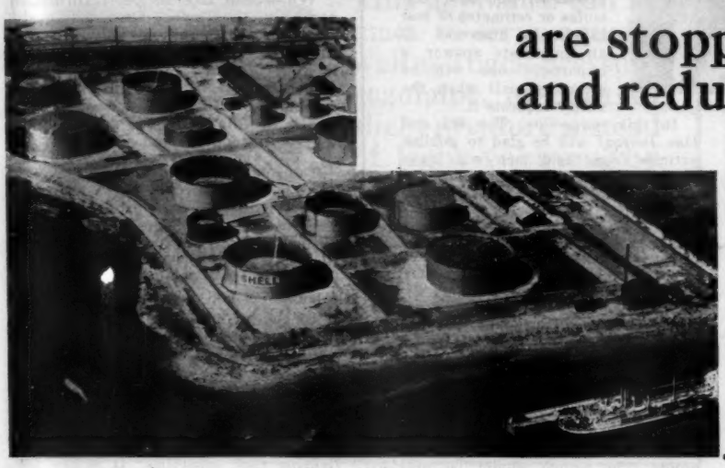


Through all the "Ups and Downs"

WIGGINS ROOFS



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O&GJ 12-8 Gray

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Naylor SPIRALWELD Pipe is made of Toncan Iron. This, alone, will save you money. But, in addition, Naylor SPIRALWELD Pipe is made with an *exclusive* electrically welded spiral lock-seam truss, which makes possible a mechanically correct structure providing STRENGTH . . . . LIGHT WEIGHT . . . . FLEXIBILITY . . . . WELD STAMINA and PERFECT ROUNDNESS. These greater pipe values, combined with the Toncan Iron advantage, doubly insure the dependability and economy of Naylor SPIRALWELD Pipe.

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CARACAS, VENEZUELA: Parrish, Ellis & Cia. Sucrs., Apartado No. 576
LA CEIBA, HONDURAS: F. Hegenbarth, Apartado 15.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Confused by Statements About Geophysical Instruments

I am confused by what seems to be conflicting statements as to just what the various geophysical instruments that are used by oil companies will do. I have read repeatedly in different publications, including The Oil and Gas Journal, that these instruments never tell whether oil is present under the surface being prospected, but merely indicate whether the underground conditions are such as to make the presence of oil likely. In contrast with this I have read on at least two different occasions a statement that oil can be found directly by use of the torsion balance. I would like to know what the facts are.—M. T. Y.

The cautious statements made by the manufacturers of geophysical instruments and by the scientists who use them probably have something to do with the confusion you experience. The statement which you have seen regarding the results to be expected from geophysical instruments is probably not a flat assertion that these instruments "never tell whether oil is present under the surface being prospected," but rather one to the effect that the instruments are used "to find structures that may be favorable for the accumulation of oil and gas." Geophysicists seldom or never go further than that and they are virtually a unit in declaring that only the drill can reveal positively the existence or nonexistence of oil beneath the surface.

In those cases where the torsion balance is reported to have shown directly the presence of petroleum the oil has been so near the surface that this achievement of the instrument has not been made the occasion for enthusiastic claims by its friends. In fact this performance of the torsion balance is regarded as of so little real importance that scientists have seen little reason for altering their accustomed statement concerning the limitations of geophysical instruments.

On the subject of possibilities and limitations of geophysical instruments Dr. C. A. Heiland says in his work, "Geophysical Methods of Prospecting":

"Geophysical prospecting methods will not register an effect of any formation or deposit if there are no differences between the physical properties of the formations being measured and the surrounding rock. Neither will some methods, although the formation may have pronounced physical properties, register an effect if the formation is in an unfavorable position (for instance the torsion balance is not affected by horizontal boundaries of formations). Finally, no geophysical method will be able to determine any subterranean disturbance with different physical properties if the disturbance is either too small or too far away from the instrument.

"While it has been proven that it is possible to locate petroleum directly by the torsion balance (due to the fact that strata filled with petroleum are lighter than strata filled with water) and by radioactive measurements (because petroleum is a good absorbent for radon), these observations were made where the deposits were virtually at the surface. These two methods are thus far of no great significance in the direct location of petroleum as compared with indirect geophysical prospecting for oil (location of structures that are favorable for the existence of oil).

"In addition to these two methods certain geophysical consulting companies have claimed that petroleum can be located directly at a greater depth by electrical methods (owing to the fact that oil-bearing formations may act as insulators as compared with adjacent formations). This statement has been made because disturbance of homogeneous electric fields have been found in several oil fields. These distortions may be interpreted as being caused by the presence of well conducting, electrolytic solutions (salt and other mineral waters). While geophysicists are still dubious about the possibility of direct electrical prospecting for oil, the electrical method is in widespread use around the oil fields for locating the oil indirectly (that is, by determining the structural conditions) owing to the fact that different formations may have different electrical conductivities if they contain certain solutions of a different degree of electrolytic dissociation."

Another Procedure for Testing Old Well Casing Is Offered

This department in the issue of October 20, 1932, contained a communication which said: "We have a great deal of old casing on our racks which we would like to test before running with 600 pounds of hydraulic pressure, applied from the inside. Would you please suggest a method of constructing a casing tester which would not entail too much expense?"

A method of constructing a tester and using it was given in response to this request. Another procedure is described in the following letter:

"I noticed in your issue of October 20 H. K. F.'s inquiry concerning methods of testing old casing. On account of the high pressure, 600 pounds, which they desire to apply to the pipe in conducting a test, it would probably be difficult to make a tight joint between the end of the pipe and the packing block as suggested in the method you outline. My experience indicates the best procedure is as follows:

"It is assumed that each joint of pipe has a coupling on one end. It is therefore suggested that a plug be screwed tight into this coupling and this plug be drilled for a three-quarters-inch heavy nipple. The nipple should be provided with one-half of a pipe union, the other half of this union to be attached to the end of the water line that is connected to the high-pressure pump. The pump suggested is satisfactory for the test and by the use of the union in the above suggested manner it will be easy to make connections between the pump and the piece of pipe to be tested.

"On the threaded end of the joint of pipe without coupling a cap should be screwed on tight. This cap is to be drilled and threaded for a 1-inch heavy nipple. To this nipple attach a high pressure plug-cock which is closed during the test period. After the test has been completed this plug-cock is opened to permit the water within the joint of pipe to escape. If it is desired to conduct this water to some point away from the place where the work is being done it is a simple matter to connect a discharge pipe beyond the plug-cock, again using a pipe union as suggested between line from pump to plug on the other end of the pipe.

"If the pipe is old and the threads battered or worn it might be necessary to clean them and use white lead or some other paste to make the joints tight between plug and coupling and between pipe and cap. If these connections cannot be screwed on the pipe without rethreading and it is not desired to go to the expense of rethreading the pipe before testing, blocking the open end of the pipe against some soft packer as suggested in your answer to H. F. K. in the issue of October 20 may be followed."—J. A. W.

Finding the Capacity of Tanks Used in the Oil Industry

We would like to get information regarding the rules for finding the capacity of all kinds of tanks used in the oil industry and would like to have a book containing tank tables and other useful information along this line. We are sure there are books of this kind, but do not know where to secure them.—E. R. T.

Tank tables are prepared by the various pipe line and production companies after they strap the individual tanks. They use many different methods of computing capacities. It, therefore, would be necessary for you to strap your own tanks and have some engineer make the calculations and prepare the tables.

To obtain formula for methods of figuring capacities it is suggested that you write to one of the steel tank companies. They have prepared tables of capacities for their various size bolted steel tanks ranging from 40 to 10,000-bbl. capacities.

In several of the general catalogs of supply companies you will find rules for figuring tank capacities. It is also possible that the Hydraulic Society, C. H. Rohrbach, secretary, 90 West Street, New York, could furnish you with rules for estimating tank capacities.

Kent's Engineering Handbook contains tables and rules for figuring tank capacities, as do most engineering handbooks.

In Jeffery's "Deep Well Drilling" the following rules are given for finding the capacity of a tank in gallons:

"First step (all measurements to be in inches):

"For rectangular tanks, multiply the length by the width, by the depth.

"For cylindrical tanks, multiply the depth by the square of the diameter, by .7854.

"For elliptical section tanks, multiply the length by the short diameter, by the long diameter by .0339.

"Second step:

"Divide the result by 231, which is the number of cubic inches in 1 gallon; the answer is the capacity of the tank in gallons.

"Example: To find capacity of round tank 10 feet in depth and 8 feet in diameter: 10 feet = 120 inches; 8 feet = 96 inches; $120 \times 96^2 \times .7854 \div 231 = 3{,}760$ gallons.

"A shorter rule—square the diameter in inches and multiply by the length or height in inches. Multiply by .0034 and the result will be capacity in gallons."

While these simple rules are sufficient for ordinary purposes, they are not adequate for estimating the capacity of tanks that are to handle oil and be filled and emptied repeatedly.

To obtain tank tables for such tanks it is recommended that the services of a competent engineer versed in this particular subject be employed. A slight error multiplied by a large number of times of filling and emptying tanks will result in a large difference in actual barrels of oil, and this can be avoided by the use of proper and approved methods. This particular type of data is not published because it is the private property of the engineer using it.

Why Was It Called That?

VUG

In drilling operations it is common to strike open places in limestone formations and these are called vugs. The term has been adapted from the Cornish mining vernacular in which it is spelled "vugg," "vugh" and "voog" and means a cavity in a rock, a cave or a hollow. The word apparently had its origin in attempts to imitate a peculiar sound heard when the miners were working in the vicinity of one of these vugs. Their tools gave off a hollow sound when the face of the drift or stope was struck and one authority states: "The sound which the miner hears may reasonably be accounted for by presuming him to be at work in the immediate neighborhood of a cavity, or as he terms it a voog."

Will definitely control
SLIGHT PRESSURES . . . . . LIGHT VACUUMS

IN a pipe line used with a suction pump for movement of casing-head gas, or in similar use, the pump will never pull a vacuum greater than the allowable equivalent of a fraction of an inch of water, if the Fulton-Duplex Sensitive Vacuum Regulator is installed. This appliance can be made to serve equally well as a back-pressure regulator, to control slight pressure instead of light vacuum, by proper adjustment of weights. Ask for circular. Correspondence is invited.

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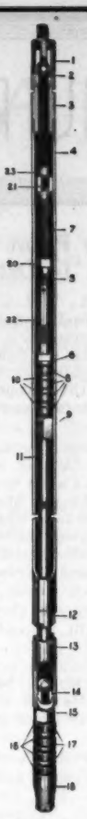
The HUF DUO PUMP

Where a simple, dependable Liner Working Barrel is required, the Huf-Duo Pump is unsurpassed for efficient, economical performance. It has endured successfully the most exacting conditions in many oil fields under various operating conditions. You install it complete with sucker rods—and you pull it the same way.

Stationary Plunger Tube connects Plunger Valve and Lower Valve. Outside tube is moving or traveling part of Pump. Valve cups on Plunger Valve are inverted to prevent accumulation of sand and to avoid possibility of cups cutting out. Wiper cup can be placed above hydraulic packing on plunger valve if desired.

Huf-Duo Pump comes complete with valves, ready to screw on sucker rods. Sets on top of old working barrel or tubing seats may be used in new wells. Your dealer sells the Huf-Duo Pump. Prompt shipments out of stock.



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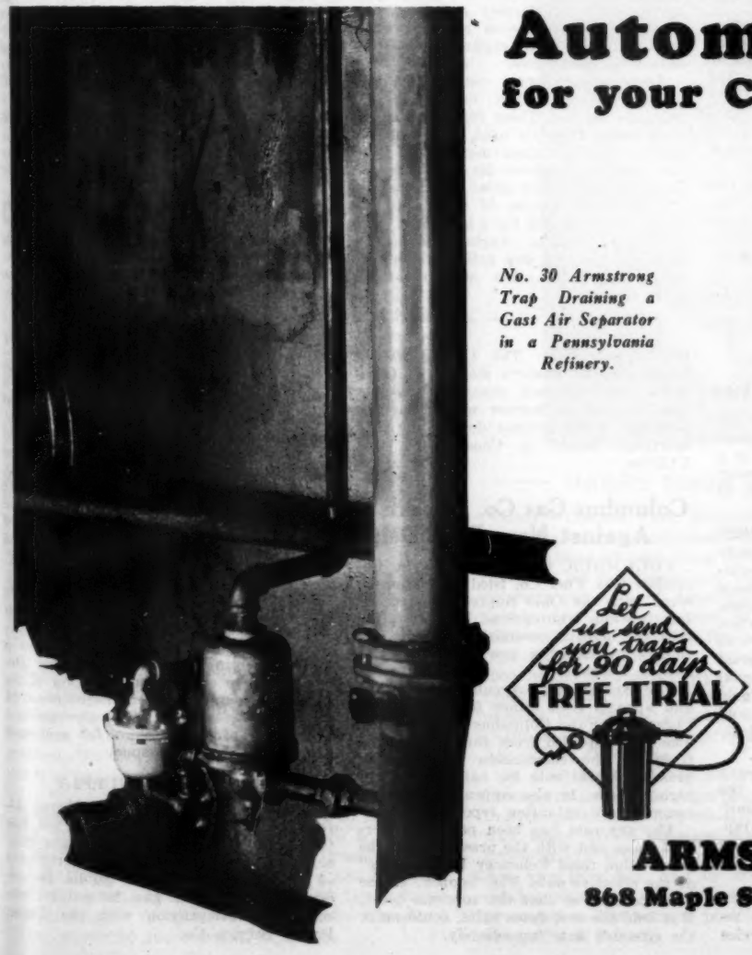

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Automatic Protection
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Armstrong traps automatically drain water out of compressed air thereby protecting pneumatic equipment from rusting, fouling and other troubles which are the principal causes of excessive maintenance.

One common use of these traps is with a separator as pictured. The separator removes the moisture and the trap discharges it. In other cases the trap drains air storage tanks and air lines. By proper application an entire system—from compressor down to the smallest piece of equipment—can be given this automatic protection.

Armstrong traps are as dependable on air service as on steam. Most leading oil companies use Armstrongs for a wide variety of services. Some have thousands in a single refinery. The new Armstrong trap represents another big step ahead of accepted practice—just as Armstrong's invention of the inverted bucket design over 20 years ago revolutionized previous ideas on trap construction.

If you haven't seen the new trap or if you have any application about which you are uncertain, let our nearest representative put one or more of the new type in service for you so you can watch its performance. Such a test involves no obligation.

Let us send you traps for 90 days FREE TRIAL

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NATURAL GAS DEVELOPMENTS

Fort Worth City Plant Litigation Is Delayed

FORT WORTH, Tex., Dec. 5.—The Lone Star Gas Co.'s appeal on a district court decision denying jurisdiction in the Fort Worth-Lone Star Gas Co. fight over municipal ownership probably cannot be heard by the Court of Civil Appeals at Fort Worth before next fall because of an overcrowded docket.

The appeal was taken on a petition for an injunction heard in October of this year, before Judge Frank Culver in seventeenth district court, seeking to block the city from taking over the local distributing system. It was thrown out on the grounds that the court lacked jurisdiction. Similar action was taken in case of another petition heard last month.

While the case is pending in Civil Appeals Court, the city will proceed with appraisal of the system in the city preparatory to starting condemnation proceedings. The appraisal probably will be completed around December 15, 1932, according to A. B. Vickery, city supervisor of public utilities.

Tht city council of Fort Worth has agreed to a request of Fownes and Orr, financiers of Pittsburgh, Pa., financial backers of the Shamrock Natural Gas Co., that it be permitted to take out of escrow certain industrial bonds of $100,000 par value deposited in the Continental National Bank to guarantee performance of a contract to supply the city with gas in the event of municipal ownership of the local gas distribution system.

The contract was signed May 13, 1931, and bound the pipe line company to supply a city-owned distribution system with domestic fuel at an initial rate of 30 cents per 1,000 feet, delivered at the city gate. The company contemplated constructing a line to the Panhandle gas fields to obtain its supply of gas for the city.

The contract provided that if the city is not in legal possession of the gas properties in the city before January 10, 1932, the good faith securities shall be promptly returned. The company, however, will readily take action under its contract if the city is able to go ahead while the present contract is still in force, according to one of the members of the firm.

The city council then moved to notify the bank to return the bonds to the owner. This action will have the effect of halting plans for immediate institution of legal proceedings for condemnation of the Lone Star Gas Co.'s Fort Worth properties. The department of utilities supervision of the city will, however, prepare an appraisal of the gas distribution properties.

Most of the litigation in regard to condemning the company's properties has been cleared away, and another contract may be entered into later by the city with some company which may offer to construct a gas pipe line and serve the city.

The fight was started about two years ago when the Lone Star Gas Co. increased its rates to domestic consumers. Two elections were held, the last in July, 1931, authorizing the city council, by amendments to the city charter, to enter the gas distribution business.

BUY KENTUCKY HOLDINGS

PRESTONBURG, Ky., Dec. 5.—The Leabury Oil & Gas Co., Baltimore, Md., has closed a deal involving purchase of the holdings of 14 gas companies and 40,000 acres of gas lands in Floyd County. The reported total purchase price was $669,000. The transaction involves the smaller producing companies in this county. All of the companies are locally owned.

Texas Production, Waste and Reserves; Cost at Well and Consuming Points

By ELMER H. JOHNSON

Economic Geographer, Bureau of Business Research, University of Texas

In the period 1901-1905, natural gas contributed only 3.2 per cent of the total supply of energy derived from mineral fuels and water power in the United States. In 1930, natural gas contributed 8.8 per cent of the total mechanical supply of energy in the United States—and that in spite of the fact that the consumption of mechanical energy in the United States in 1930 was more than two and one-third times what it had been in 1901-1905. Moreover, in 1930, natural gas contributed more to the energy budget of the United States than did the much-talked-of water power resources of the nation.

During the same period, 1901-1905 to 1930, the contribution of oil to the nation's energy consumption had increased from 6.1 per cent to 24.2 per cent, or an increase of nearly 300 per cent, and this in spite of the fact that the consumption of mechanical energy during this period had increased by 136 per cent. During this same period, 1901-1905 to 1930, the contribution of coal to the national energy budget decreased from 88.7 per cent to 59.3 per cent. This great decrease was made up largely by the increase in the use of oil products and of natural gas.

Texas possesses vast reserves of natural gas. Concerning the natural gas situation in Texas the president of a major oil company recently stated publicly that while Texas has to-date marketed 3,000,000,000 feet of natural gas some 2,000,000,000 feet of gas have been wasted—that is, Texas has been able to market only 60 per cent of the gas brought to the surface. It was stated also that the volume of proven reserves of gas in Texas amounts to about 7,000,000,000 feet, or enough to last about 13 years at the current rate of production—that is, without wastage.

In 1931 Texas contributed 27.55 per cent of the natural gas marketed in the United States according to data from the Bureau of Mines at Washington. It is estimated, and probably rather conservatively, that currently 200,000,000 feet of gas are wasted annually in Texas—this is wasted by being allowed to escape into the atmosphere, unused. For the year 1931 Texas produced 464,580,000 feet of natural gas; the estimated average value of this at wells, as given by the Bureau of Mines, was 2.2 cents per 1,000 feet—and this figure was somewhat below what it had been in recent years; and the value of Texas natural gas at points of consumption averaged 15.9 cents per 1,000 feet in 1931.

By using these values it is easy to calculate the enormous value to Texas of the 200,000,000 feet of natural gas wasted annually in the State. That Texas natural gas is cheap both at wells and at points of consumption is demonstrated by comparisons with the case of California where natural gas is worth 7 cents a thousand at well and 25 cents a thousand at points of consumption; or with West Virginia, whose gas is worth 18.9 cents a thousand at wells and 46.6 cents at points of consumption. These comparisons amply demonstrate the great value of this very satisfactory and most convenient fuel resource—a resource which is basic to the future expansion of Texas' industrial enterprises.

These vast reserves constitute a natural heritage of Texas; once used, they are gone forever. These resources are irreplaceable. Properly used, they will provide at low cost their many high grade and necessary products for years to come. Properly used, these great resources will provide large sources of income to the State and its people for a long time. Efficient use, without waste—this is the principle basic to any policy which concerns the conservation of natural resources.

Receiver Is Named for Consolidated Utilities

WILMINGTON, Del., Dec. 5.—Appointment of a receiver for the Consolidated Gas Utilities Corp. is asked in a bill of complaint filed in chancery court by Fannie B. Libby, a stockholder, of Boston, Mass.

The company was incorporated in 1928, and owns and operates through subsidiary systems for producing, transportation and selling of natural gas to more than 50 towns in Oklahoma and Kansas.

The bill charges that the corporation has been unable to obtain funds with which to meet first mortgage interest payments of $248,000 due, or semiannual interest payments of $127,000 on its gold debentures, also due December 1, and had accounts payable of $55,000 and accrued liabilities of $510,000.

Following the appointment of Logan W. Cary as temporary receiver of the Consolidated Gas Utilities Co., committees were formed in New York to represent the interests of first mortgage bonds and convertible debentures of the company.

Mr. Cary, who is president of the company, was also appointed temporary receiver for the Consolidated Gas Service Co., a subsidiary. The U. S. District Court for the western district of Oklahoma acted in each case. The receiver was directed to borrow money for the payment of the interest due on the first mortgage bonds of Consolidated Gas Utilities.

Columbus Gas Co. Appeals Against New Rate Delay

COLUMBUS, Ohio, Dec. 5.—The Columbus Gas Fuel Co. filed a petition in error with the Ohio Supreme Court citing previous contentions and asserting that the utilities commission has no authority to extend a new rate's effective date to February 1.

The commission overruled all motions and appeals filed either for the city of Columbus or the Columbus Gas Fuel Co. The city appealed from the 55-cent rate fixed by the commission claiming the present 48-cent rate for natural gas was high enough. It also appealed from the commission's valuation report.

The gas rate has been postponed several times and with the present order the commission fixed February 1 or "sooner" as the effective date. The "sooner" clause was included so that the supreme court, if it held the new rates valid, could make the effective date immediately.

Six Years Controversy Over Oklahoma Order

A six-year court dispute between the Oklahoma Gas & Electric Co., the Oklahoma Natural Gas Corp. and Wilson & Co. and the Oklahoma Corporation Commission, is back where it started when three Federal judges refused to dismiss the action.

The utilities sued the packing company and others for an injunction against enforcement of an order of April 13, 1926, requiring the Oklahoma Natural to supply gas to the packing plant at the city rate of 35 cents per 1,000 feet for the first 100,000 feet and 15 cents per 1,000 for all over that amount, provided monthly consumption averaged 15,000,000 or more feet.

The circuit court of appeals vacated a district court dismissal of the suit and the case was reopened in Federal court. Judge Edgar S. Vaught, Judge John H. Cotteral and Judge F. E. Kennamer, Tulsa, in an opinion denied Wilson & Co.'s motion to dismiss and likewise denied the utilities' request for an injunction against enforcement of the order.

Deny Panhandle Eastern Rehearing in Missouri

JEFFERSON CITY, Mo., Dec. 5.—The state public service commission has refused to grant the Panhandle Eastern Pipe Line Co. a rehearing in the Fulton gas case. The company now is expected to carry the case to the courts.

The commission several months ago ordered the Panhandle Eastern to supply Fulton's municipally owned gas distribution plant with natural gas, holding that it had jurisdiction on the grounds the company was already engaged in intrastate business through its wholly owned subsidiary, the Central States Utilities Co. The company contended it was engaged only in interstate business and did not come under control of the commission.

The commission ordered the Panhandle Eastern to supply the Fulton plant on the same basis it would supply its subsidiary or any other private company. The Panhandle Eastern insisted that the gas be distributed through a private company holding a long-term franchise.

OKLAHOMA GAS ORDERS

Two orders, fixing gas rates to be charged by the Lone Star Gas Co. in a score of Oklahoma towns, are reported being prepared by the Oklahoma corporation commissioners. One, it is said, would provide a domestic rate of 59 cents the 1,000 feet, the other a 62-cent rate. C. C. Childers, commissioner, insisted the rate should be not more than 59 cents, while Paul Walker, chairman, claims the record would not substantiate a rate below 62 cents.

MEMPHIS NATURAL GAS MEETING

CHICAGO, Dec. 5.—The Chicago Stock Exchange has received word that the Memphis Natural Gas Co. has called a special meeting of stockholders for December 28 to consider a reduction of its capital account through readjustment of book value of stock. The plan proposes a book value of $110 a share for preferred and $5 a share for common.

PARSONS GAS SUPPLY

PARSONS, Kans., Dec. 5.—Mayor Alfred Coad said the city would aid the Ozark Pipe Line Co., a local gas concern, in its efforts to get a certificate of convenience from the public service commission to sell gas to public consumers in competition with the Union Public Service Co.

PERSONAL PARAGRAPHS

Col. T. H. Barton, president of the Lion Oil Refining Company, El Dorado, Ark., spent last week in New York.

* * *

E. L. Rawlins, petroleum engineer at the Bartlesville station of Bureau of Mines, has concluded a tour of duty in South Texas.

* * *

William Clark, former engineer with the Phillips Petroleum Company, has joined the Kessler Oil & Gas Company at Oklahoma City.

* * *

Sidney H. Keoughan, president and general manager of the Mutual Oil Syndicate, made a hurried trip to New York City last week, taking passage by airplane from Denver, Colo.

* * *

Paul M. Buttermore, consulting geologist of Fort Worth, Tex., has recently completed a geological survey for the Chartiers Oil Company of Pittsburgh, Pa., of its holdings in Oklahoma.

* * *

Howard Bennette, managing director of the Western Petroleum Refiners Association, was the speaker at a special meeting of the Louisiana-Arkansas Refiners Association in Shreveport, La., recently.

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Axtell J. Byles, president, Tide Water Associated Oil Company, W. F. Humphrey, president of Associated Oil Company, and L. C. Decius, chief geologist, recently made an inspection trip in California.

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A. V. Simonson, export representative for the Gaso Pump & Burner Manufacturing Company, visited the East Texas fields and is spending some time in Tulsa before returning to his headquarters in New York City.

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B. F. Weekley, head of the Weekley Oil Corporation; James McCurdy, independent operator, and Elliott F. Cowden, oil land owner, all of Fort Worth. Tex., have returned from a hunting trip in old Mexico.

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R. D. Parker, head of the oil and gas division of the Texas State Railroad Commission, announces that Homer Pierson, chief investigator, has been placed in charge of the division's work in East Texas, with headquarters at Tyler.

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Dr. Donald C. Barton, consulting geologist, of Houston, Tex., was the guest of the Shreveport Geological Society December 2, presenting a paper on "The Plan of Alignment of Gulf Coastal Salt Domes and Gulf Coastal Geosynclines."

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A. R. Wilson, division manager of The Texas Company, and Y. A. Land of the company's law department of The Texas Company with Denver, Colo., headquarters, have been to Riverton watching the company's operation at Alkali Butte.

* * *

Lewis H. Thornton, prominent producer and refiner in the Allegany Field, has returned to Wellsville, N. Y., from a trip to Texas. Mr. Thornton wrote an interesting story of his impressions of the East Texas Field for the Wellsville Reporter on his return.

* * *

John G. Staudt sales and service engineer, Dowell, Inc., Midland, Mich., is in Tulsa making a field investigation of well conditions for his company who are the developers of the new acid well cleaning process. Mr. Staudt will be here for about another week.

* * *

John Haggenjos returned last week to the Cleveland, Okla., offices of the Johnson Oil & Refining Company following a trip to St. Louis and Chicago. Mr. Haggenjos who for several years was in charge of the Omaha, Nebr., sales office of the Johnson company was recently transferred to Cleveland, Okla., where he succeeded A. L. Olson.

Frank O. Prior, president of the Stanolind Oil & Gas Company, recently visited Casper and Salt Creek, Wyo..

* * *

C. E. Brock, of Salina, Kans., general manager of the Kansas Pipe Line Company, was in Wichita, Kans., attending the Public Service Commission hearing.

* * *

Wayne Ellis, oil scout for the Indian Territory Illuminating Oil Company, with headquarters in the Oklahoma City Field, and Mrs. Ellis, announce the birth of a 9-pound boy, about a week ago.

* * *

W. K. Warren, president, and H. E. Felt, secretary, of the Warren Petroleum Company, have returned to the Tulsa headquarters of the company after a visit to Texas and Louisiana points.

* * *

Harry L. Hughes, formerly sales manager of the Barnsdall Refineries, Inc., has been elected secretary of the MonaMotor Oil Company with headquarters at Council Bluffs, Iowa. Mr. Hughes succeeded E. D. Judd who has retired after 40 years' service.

Men of the Industry

HARRY THOMAS EARL

Harry Thomas Earl, manager of the transportation department, Associated Oil Company, in charge of operations of pipe lines, vessels, rail transportation and oil purchases and storage, is one of the veterans not only of Associated Oil but of the industry. Mr. Earl was born in Evansville, Ind., in 1882, and after attending the public schools and the University of Chicago he joined the Associated in 1904 in the accounting department. Since that date, rising step by step in the Associated ranks to his present responsible position, he has observed the California petroleum industry develop into the leading one of the State.

In 1919 Mr. Earl became superintendent of rail transportation, with supervision of rail and pipe line transportation and oil storage. A year later he was made office manager for the executive vice president. In 1925 he became assistant to the executive vice president, and in 1927 was appointed operating assistant to the president. In 1929 he was promoted to his present position. His chief hobbies are golf and fishing.

H. P. Taubman, president of the Taubman Supply Company, has been spending the last two weeks in the oil districts of Kansas.

* * *

J. A. Vickers, president of the Vickers Petroleum Company, with headquarters at Wichita, Kans., has been confined to his home by an attack of influenza.

* * *

T. J. O'Sullivan, executive secretary, and J. A. Welch and K. Dyson, of Shreveport, La., attended the annual meeting of the Louisiana Code Committee in New Orleans.

* * *

Roy Franks, land man with the Ramsey Petroleum Company, with headquarters in Denver, Colo., and in charge of the Rocky Mountain area, has been spending the last week at headquarters in Oklahoma City, Okla.

* * *

H. T. Whitaker, formerly secretary and director of Union Mortgage & Discount Company, has been elected vice president of Royal Royalties, Limited, of Denver, of which Max W. Ball is president. Arthur Rich, formerly vice president, is no longer connected with the company.

* * *

A. F. Holliday, vice president of Benedum & Trees, left the party of company officials that has been making a tour of Texas properties during the past week long enough to make a flying trip to Shreveport, La., to visit Paul Benedum, who is looking after company affairs in North Louisiana.

* * *

Nelson E. Chance, district manager of the Brown Instrument Company, Houston, Tex., has been promoted to the home offices of the company at Philadelphia, Pa., as assistant sales manager. He has been succeeded at Houston by O. B. Wilson, formerly manager of the Cleveland, Ohio, office.

* * *

F. B. Plummer, head of the petroleum engineering department of Texas Christian University, devoting part of his time to the bureau of economic geology at Austin, Tex., gave an address on the zones in the tertiary of Texas, before a meeting of geologists, paleontologists and students at Texas Christian University.

* * *

E. G. Blaylock, who has served as Mid-Continent representative for the Graton & Knight Company of Worcester, Mass., has been transferred to Kansas City, Mo. Mr. Blaylock has received appointment as district manager, and will have charge of the territory consisting of Missouri, Kansas, Nebraska, Iowa, Oklahoma, Colorado, Texas and Wyoming.

* * *

John F. Mabee, Tulsa, has purchased approximately 61,000 acres of ranch land near the town of Midland, Tex., from the Midland Farms Company. This is one of the largest ranch deals made in the district for a long time. Located in an area which has never been tested for oil leads to the belief that several tests may be made on the land later.

* * *

Harry Boyd Earhart, chairman of the board of the White Star Refining Company, will retire from the company December 31, 1932. He founded the company in 1910. The company was affiliated with the Vacuum Oil Co. in 1930, and through a subsequent merger of the Vacuum and Standard Oil of New York, now operates as the Socony-Vacuum Oil Corporation.

* * *

L. W. Witte, assistant traffic manager of the Mid-Continent Petroleum Corporation, has been elected president of the Traffic Club of Tulsa. B. A. Everett, has been chosen vice president; Roy Wattenbarger, secretary-treasurer, C. F. Dowd, H. B. Coogan and J C. Schiedel, directors. The holdover directors are: C. E. Cadieux and S. D. Powers. Retiring officers were W. L. Meyers, president; F. F. Robinson, director, and H L. Armstrong, director.

Oklahoma Fields

(Continued from Page 51)

cor. SE Section 27-21-9, was completed for 50 bbls. a day from 1,109-32 feet.

Pittsburg County

Independent Oil Co.'s No. 1 D. James, C NE NE Section 28-2-15, was drilling at 50 feet. Mid-Western Oil & Gas Co.'s No. 1 Hall, C S half SE NE Section 8-7-18, was completed for 2,000,000 feet of gas from, 1,800-2,095 feet.

Pottawatomie County

Gypsy Oil Co.'s No. 1 Boyer, NW cor. SE SE Section 27-6-3, is a location. Stewart & Clark's No. 1 Banta, SW cor. SE SE Section 21-7-4, is a location. Magnolia Petroleum Co.'s No. 1 Billington, NW cor. SW Section 36-7-4, was completed for 350 bbls. from 4,193-4,240 feet.

Payne County

Amerada Petroleum Corp.'s No. 1 Garby, NE cor. SW Section 28-18-5, is a location.

Seminole County

Sunbeam Oil Co.'s No. 2 Campbell, NE cor. NW NE Section 20-9-6, was completed for 250 bbls. from 2,762-67 feet.

Stephens County

Becker and others' No. 1 Bunch, NE cor. NW SW Section 21-2s-7w, is a location. McNeil and others' No. 1 Truitt, SE cor. NE Section 14-2-5w, is a rig. Ables and others' No. 6 Akers, SE cor. NE NE NW Section 11-1-5w, was completed for 5 bbls. from 1,042-56 feet.

Tulsa County

McEvoy and others' No. 1 Squire, SE cor. SW Section 6-16-13, is a rig. Bowden and others' No. 2 Chrisholm, CNL NW NE Section 6-17-14, was completed for 25 bbls. from 1,537-40 feet. Holmes and others' No. 1 Graves, NE cor. NW SE Section 30-19-10, was completed for 10 bbls. from 2,220-35 feet. Johnson Oil & Gas Co.'s No. 1 Davis, SW cor. NE SE Section 19-19-10, was dry and abandoned at 2,127 feet.

Wagoner County

Sands Petroleum Co.'s No. 1 Hale, SW cor. NW SW Section 24-18-15, was drilling at 200 feet. J. E. Mabee's No. 3 Drew, SE cor. NE SW Section 26-18-15, is a rig. Stansbury's No. 1 Drew, CNL SE NE Section 26-18-15, was completed for 10 bbls. from 1,052-65 feet. Boley and others' No. 1 Bird, NE cor. Section 27-18-15, was dry and abandoned at 1,083 feet. J. P. Flannigan's No. 1 Lovett, NE cor. SE SE Section 35-18-15, was dry and abandoned at 1,021 feet.

Southwest Texas Fields

(Continued from Page 55)

them Shumway has started drilling on the Shiner ranch. And a few miles northeast of that and following on up the line, Schimmel, after getting one shallow gas well is drilling at 1,325 feet in the No. 1 Wolfe and looking for production in the sand that is producing in Pettus and Government Wells.

Sarnosa Pool—Duval County

Sarnosa Oil Corp.'s No. 3 Weill was reported as a completion for 100 bbls. but the company is still working with it trying to increase the production and the No. 4 has not been started. With the exception of this test this field has not been doing much but L. W. Capps has another well started now and announced five new locations, one in Survey 576 and the other four in Survey 574, all of them practically proven inside locations.

Starr County Operations

Los Olmos Oil & Gas Co. has completed its schedule of 15 new wells in the Los Olmos Pool making a total of 41 tests this company has drilled to sand at around 450 feet and has started on an additional group of wells. The completions are: No. 33 Kelsey Bass, total depth 440 feet, 30 bbls.; No. 34 Kelsey Bass, total depth 448 feet, 45 bbls.; No. 35 Kelsey Bass, total depth 476 feet, 35 bbls.; No. 36 Kelsey Bass, total depth 490 feet, 35 bbls.; No. 37 Kelsey Bass, total depth 452 feet, 35 bbls.; No. 38 Kelsey Bass, total depth 466 feet, 30 bbls.; No. 39 Kelsey Bass, total depth, 480 feet, 30 bbls.; No. 40 Kelsey Bass, total depth 494 feet, 35 bbls.; and No. 41 Kelsey Bass, total depth 508 feet, 35 bbls.

Tarver & Nance completed the No. 7 Kelsey Bass in sand at 551-64 feet. It was reported last week as having come in making at the rate of 100 bbls. daily. We are assured that it made at the rate of 190 bbls. It is the biggest well ever completed in the field but seems to be deeper than the others and is possibly in a new sand. One test in this field drilled before production was finally proven went to around 900 feet and went through three good looking sands, some of them showing mainly gas.

Balcones Fault Zone

Along the Balcones fault zone, chief interest is in Caldwell County, where C. J. Webster Oil & Gas Co.'s No. 1 McMahon had a good gas showing at 976-85 feet and is now below 1,600 feet and due to get the Edwards in another week. It is about 1,000 feet southeast of the Mills and others' No. 1 McMahon which made about 9,000,000 feet of gas at around the same depth as Webster's test showed gas. This test is 1¾ miles northeast of Webster's No. 1 McCrory which opened a new pool and both are on an extension of the Luling Field fault line. No. 1 McCrory is producing from a crevice and what the operators are hunting for is an Edwards lime field.

Miscellaneous

J. L. Mauldin got a 250-bbl. well in his No. 2 fee a little southwest of the Pettus Pool in Bee County. The test stood at sand depth for several months with a showing of oil. It is between the field and the Damac extension and many thought right in a cross fault line.

Tarver & Nance have made location for a test about 3 miles north of production in the Jacob Pool in McMullen County, which will test the field's limits on that side. It has not been proven in any direction yet except 1½ miles to the southwest.

Late in the week, Tong & Altgelt topped the Edwards at 992 feet in No. 1 Henry Rahe in western Guadalupe County and were putting on rock bit at 1,027 feet.

Big Gas Well in Hebron Field, Potter County, Pennsylvania, Under Control

BY SPECIAL CORRESPONDENT

COUDERSPORT, Pa., Dec. 3.—With natural gas operations under way in Potter and Tioga Counties in Pennsylvania and in Allegany, Steuben, Yates, Schuyler, Ontario and Seneca Counties in New York, all as a result of the opening of the Dundee Field in Yates County by Bradford operators, the New York-Pennsylvania gas field goes into the winter with good prospects of considerably increasing its potential supply at a time the market is best. The development of the big field started in Yates County and spread steadily to neighboring counties on both sides of the New York-Pennsylvania state line until gas pools were opened not only in Yates but in Ontario, Schuyler and Steuben Counties, north of the line and in Tioga and Potter Counties south of the line. At this time Potter County is the most active scene of operations, with eight wells drilling. Five operations are under way in Tioga County, six in Steuben County, three in Yates, one in Schuyler, three in Allegany, five in Ontario and one in Seneca, all drilling for gas.

Geneva Gas Field

In Ontario County, New York, the Penn United Co. drilled a failure in No. 1 Lynch, completed in Niagara lime at 1,157 feet. It will be drilled down to the lower formations, Clinton, Medina or Trenton. The hole was 900 feet in depth and the pay in that field is around 1,200 feet. R. K. Rogers' No. 1 Bump was drilling below 300 feet. The location is 5 miles northeast of the discovery well. The Penn-Ohio Gas Co. of Pittsburgh is reported to have purchased the Burns and the Shaner interests, including the 5,000,000-foot discovery well and 8,000 acres of leases. The owners are drilling a second well on the block. Ambitious parties from Rochester, Syracuse, Auburn and other places are actively leasing in the Geneva district.

It is reported that the Penn United Co. has plugged its test on the Sheldon farm, in Allen Township, Allegany County, but may drill on another location.

The wild gas well of the Wayoga Gas Co. on the Tassell farm in the Hebron Field, Potter County, was shut in after the crew had cemented the 4-inch pipe which had been run inside the parted 6-inch casing. The well is said to be good for 22,000,000 feet of gas per day.

Updegraff and others have resumed drilling on No. 1 Coyle in the Hebron Field in Potter County. The Potter Development Co. has taken over the test on the Cole farm in the Hebron Field and will resume drilling.

In Tioga County, Rodgers and others are getting ready to drill a test on the French farm in Middlebury Township. Mellon & Pollack have made a location on the Van Zile farm in Lawrence Township. The Tioga Natural Gas Co. has a 300,000-foot showing at 4,158 feet on the Cloos farm in Farmington Township.

In Allegany County, New York, Brendall and others were drilling at 800 feet on the Lynch property in Phelps Township and Peterman and others were drilling below 800 feet on the White estate in Bradford Township.

The test locally known as the Randolf well in Alfred, Allegany County, New York, is down 4,200 feet.

The Peterman-Ivers interests' No. 1 White, between Campbell and Monterey, Steuben County, New York, is drilling below 1,850 feet with a good gas showing. The same interests have made a location for a test on the G. R. Mills farm in the Geneva Field in Ontario County.

A 5,000,000-foot gasser was completed on the Considine farm in the Rathbone Field in Steuben County, New York, at a depth of 1,000 feet by Cady & Bingham. The well has been shut in and the rig moved to a location in the village of Cameron Mills and is expected to commence drilling next week.

The Lycoming Natural Gas Co. has a 2,000,000-foot gasser in No. 1 Kinney, in the Rathbone Field, at a total depth of about 1,500 feet.

Wright, Kritz, Mays & Barry completed a 1,000,000-foot well on the Mosher farm, in the Rathbone area.

Gas Line Near Completion

The work on the Belmont Quadrangle Drilling Co.'s gas line from the Rathbone Field northward to a connection with the Home Gas Co.'s main line is progressing rapidly. The line to the village of Bath is said to be nearly completed and work is being started on the gathering lines in the field. Until the trunk lines are ready for use gas production in the Rathbone Field will have little if any outlet, which fact has delayed the general development of the field.

Blames Economic Conditions

Frederic H. Hill, vice president of the New York Central Electric Corp. and manager of the New York State Electric & Gas Corp., testified at a hearing of the Public Service Commission Friday at Elmira, that the former company has not furnished gas to several municipalities in Steuben County because economic conditions do not warrant such service now and did not in the past.

The hearing was held as a result of a show cause order issued by the Public Service Commission. The companies were instructed to show cause why they have not distributed gas to the Steuben County municipalities. They were given franchises for such distribution and the commission consented to exercise of the franchises.

Supply and Demand

The Bradford-Allegany fields in McKean County, Pennsylvania, and Cattaraugus and Allegany Counties in New York, with a potential production of over 40,000 bbls. per day, are producing less oil than in any period in the past two years, last week's production having dropped below 30,000 bbls. in the two areas. Ever since April, 1931, the district has led all Pennsylvania grade oil fields in curtailing production in an effort to balance supply and demand. The Bradford-Allegany Field produces over 31 per cent of all Pennsylvania grade oil, and the Bradford Field alone produces 70 per cent of the oil produced in the State of Pennsylvania. Little drilling has been done in the area in the past two years, while previous to that time as many as 300 strings of tools were kept busy. Bradford produced an average of 25,419 bbls. a day in October and 25,041 bbls. per day in November, while the Allegany Field produced 6,499 bbls. per day in October and 6,367 bbls. per day in November.

Gulf Coast Fields

(Continued from Page 54)

well, completed in the pay at a total depth of 4,311 feet, has been standing shut in showing a pressure of 1,475 pounds. Its bottom is in the top of the pay and the second well was drilled deeper in an effort to prove a lower zone of oil production characteristic of such Eocene fields. The second well is 1,050 feet to the west and south of the discovery well.

Esperson Field

Fee ownership of a large portion of the Esperson Field, western Liberty County, has been acquired by Sun Oil Co. from Mrs. Mellie Stewart Esperson. Sun purchased a total of approximately 17,000 acres, including the holdings of Mrs. Stewart and the Moores Bluff Corp. Cranfill & Reynolds Co. holds the leases on that portion of the property which the field is being developed.

Manvel Field

Location has been made by The Texas Company for No. 4 Belcher, an important west extension for the Manvel Field, Brazoria County. The location, 2,900 feet south 42 degrees west and 400 feet south 48 degrees east out of the north corner of lease in the Harvey Little Survey, is approximately 1,950 feet to the west from the discovery well (No. 1 Belcher). Other tests have been made north and southeast from the discovery well. The field has three producers, including the discovery well in a 5,500-foot sand, No. 3 Belcher, 400 feet northwest of No. 1, and No. 2 Ewing, a north offset to No. 3 Belcher, the latter two being in a 4,000-foot sand. No. 2 Belcher, 1,500 feet southeast of the discovery well, made a short lived well in the 5,500-foot sand and has been abandoned.

Port Neches Field

The Texas Company also has made location for another test, No. 4 Stark, in its Port Neches Field, southwestern Orange County. The latter is the most northeasterly test for the field, being 325 feet east of No. 3 Stark, a producer at 3,483 feet. Check location for No. 4 is 675 feet east and 340 feet north of the southwest corner of Marshall Beauchamp Survey.